

THE MONIST

THE FIRST PHILOSOPHER.

DURING a recent sojourn among the treasures of the British Museum, it was the writer's good fortune to subject to close scrutiny an ancient stone,¹ the importance of which had hitherto been entirely unsuspected. It contains the oldest known philosophical explanation of the world, written a thousand years before the first Greek philosopher was born. It therefore, for the first time from any foreign, pre-Socratic source, furnishes tangible support to the Greek tradition of the origin of their philosophy in the East. A hasty glance at the monument, first in its general and then its more particular aspects, will doubtless serve to set it into its proper perspective before the eye of the modern reader.

"The History of the Human Mind," or something similar, will be the title of perhaps the most important book of the future. Modern experimental psychology, anthropology, physical and otherwise, archæology, study of modern and ancient literature, history, comparative religion,—in short, anthropological study in the widest conceivable sense, with its myriads of delvers, burrowing into a thousand far corners, is rapidly furnishing the material and the data for this coming book. Although a vast amount of work remains to be done upon all classes of materials, yet enough has been accomplished already to determine the main lines of a gradual evolution of the powers of the human mind through ages, as clear as the evolution of physical forms. It is the failure to rec-

¹ No. 135.

ognise this fact which leads some good but misguided people, like many theosophists, to imagine that their idealised and purely subjective notion of early religions and ethical teaching is an actual, modern revival of lofty truths and precepts once held and practised in remote centuries before our era, for example in Egypt. A knowledge of even the simplest facts of the evolution of the human mind, a knowledge such as Browning shows in *Caliban*, would instantly reveal to such people the impossibility, not to say absurdity, of their assumption. Shall we, living as we do in these days of highly developed ethical consciousness and ripe religious culture, turn back the evolutionary process and revert to the embryonic ethics of a remote past? Such action would be as reasonable as the procedure of the man who, seeking cooling shade and refreshing fruit on a hot day, should go and sit under an acorn and eat watermelon seeds.

I fear that to the orthodox classical scholar these earlier stages of the human mind have little interest; for to him its history begins with the Greeks. But some of the important steps in this evolution, like the rise of the ethical consciousness, lie not merely back of the Greeks, but back of the age of writing, and must be studied in material remains, or in modern survivals of primitive culture. Only its subsequent developments can be studied in the literary age. But there is one fundamental step, which was taken far within the literary age, for which exclusive credit has hitherto been given to the Greeks. I refer to the development of the ability to contemplate the world philosophically. There is of course no question but that the effect of this momentous step upon the later world is due to the Greeks, whose genius was able to follow it up and develop an elaborate system of philosophy, which they bequeathed to modern Europe. But the Greeks themselves affirm that their philosophy was received from the East, especially Egypt. Modern criticism has for the most part rejected this tradition of the Greeks, nor has any document ever found in Egypt heretofore offered confirmation of this Greek tradition. It has therefore remained as the accepted fact that the human mind, after its ages of slow progress, first showed itself capable of a philosophical expla-

nation of the world in the seventh century B. C., and that this all-embracing conquest was the work of the Greeks.

The difficulty in investigating the Greek tradition of the Eastern origin of their philosophy has heretofore been insuperable. There was almost no material. Thought is an elusive thing, even when in writing, but when the said writing must survive through thousands of years, the chance of preservation is reduced to the vanishing-point. Out of the wreckage of millenia, it was recently the writer's good fortune to find in the British Museum a single chip, but bearing its message of thought from those centuries in Egypt, from which the Greeks themselves aver that they drew the beginnings of their philosophy. The monument was published two generations ago, in the days when little was known of hieroglyphic, and accurate study of epigraphy was unknown. The publication read and numbered the lines of the inscription backward, contained a multitude of errors, and failed to see so many of the fading glyphs faintly glimmering on the stone, that the few who have since then noticed the document as published, not perceiving the proper order of the lines, have naturally been unable to apprehend its remarkable content. The present writer, being at the time engaged in studying the Egyptian inscriptions of the British Museum for the Imperial Dictionary at Berlin, was fortunate enough to subject the stone itself to a searching examination of some ten days, during which he made first a rough copy, and then a careful scale copy.¹ Every tiniest fading scratch upon the stone was minutely examined over and over again, throwing the light upon it at varying angles from a mirror, and the copies were thus repeatedly checked and collated with the original. This work soon made clear the proper order of the lines and brought out many words and even whole sentences before unnoticed in the badly preserved places. The remarkable content of the document was then evident.

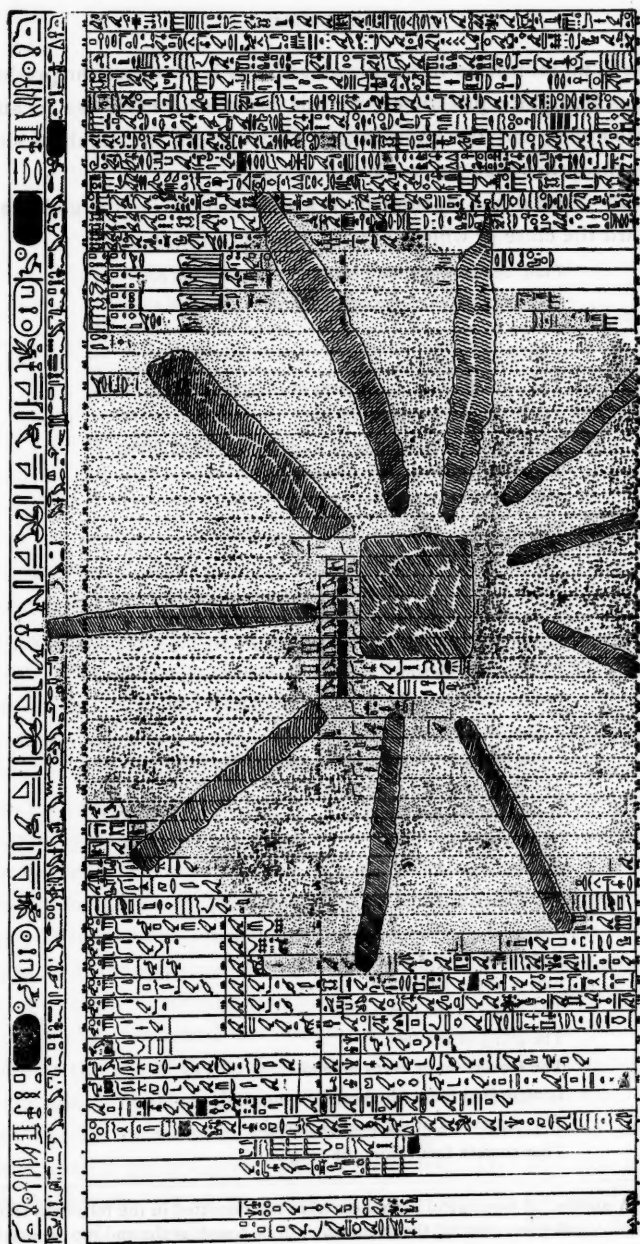
The monument is a rectangular slab of black granite, three

¹ This copy has appeared on a large scale, with critical exposition, in the *Zeitschrift für ägyptische Sprache*, and will be published on a slightly smaller scale in a forthcoming number of *The Open Court*.

feet high by four and a half feet in length, as it stands upon the long edge. Set up in the temple of Ptah at Memphis, by King Shabaka, in the latter half of the eighth century B. C., it later suffered defacement by both political and religious fanaticism, and was finally removed by some vandal, who, cutting a large hole in the middle and rough channels radiating from the hole, employed it as a nether millstone. The middle portion of the inscription was thus totally obliterated, and the modern student finds about a fourth of it, in good preservation at each end, merging gradually into illegibility and then into bare emptiness, without the trace of a sign, as the eye moves from the end to the centre. In this uncertain border-land between the ends and the centre there is plenty of room for industry; days of painful scrutiny as the eye fastened on one spot vainly strives to wrest its secret from some passage of tantalising suggestiveness, till at last the missing signs are caught glimmering dimly from among the scratches left by that odious upper millstone. The inscription is in sixty-one vertical lines, surmounted by a superscription in two horizontal lines, the first of which contains the full name and titulary of Shabaka,¹ an Ethiopian king of Egypt in the second half of the eighth century B. C. The second line states that "his majesty wrote this document anew in the house of his father Ptah,² his majesty having discovered it, a work of the ancestors, eaten of worms; it was not legible from beginning to end. Then [he] wrote [this document] anew, more beautifully than the one that was before, in order that his name might abide, and his monument endure in the house of his father, Ptah, for all eternity." This superscription dates the monument with certainty, and avers that its inscription is only a renewal of an older document. This statement is confirmed both by the language, orthography and content of the inscription; indeed all the internal evidence would point to a date at least as old as the early eighteenth dynasty, the sixteenth century before Christ, and there are indications of even greater antiquity. As to its authorship,

¹ Usually identified, though with some uncertainty, with So, the ally of Hoshea of Israel (2 Kings xvii. 4).

² The god of Memphis.



there is no indication in the document. It is of course the product of the Memphite priesthood, for the temple of Ptah was located at Memphis, and the composition is doubtless the result of slow growth, rather than the work of one man.

In general the document is a disquisition on the god Ptah, toward the close of which is found the following hymn¹:

" Ptah, the great, is the heart and tongue of the gods
 Ptah, from whom proceeded the power
 Of the heart,
 And of the tongue
 That which comes forth from everybody (thought)
 And from every mouth (speech)
 Of all gods, of all people, of all cattle, of all reptiles,
 That live, thinking and commanding
 Everything that he (Ptah) wills
 The gods fashioned the sight of the eyes,
 The hearing of the ears,
 The smelling of the nose,
 That these might furnish the desire of the heart.
 It (the heart) is the one that bringeth forth every successful issue.
 It is the tongue which repeats the thought of the heart;
 It (the heart) was the fashioner of all gods
 At a time when every divine word
 Came into existence by the thought of the heart,
 And the command of the tongue
 It (the heart) is the maker
 Of that which is loved,
 And that which is hated;
 It is the giver of life to the innocent,
 The giver of death to the guilty.
 It is the maker of all handiwork,
 And of every handicraft.
 The doing of the hands,
 The going of the feet,
 The movement of every member
 Is according to its (the heart's) command,
 The expression of the heart's thought,
 That cometh forth from the tongue,

¹ A number of theological references have been omitted in the following translation. A full translation of the document will be found at the end (pp. 333-336).

And doeth the totality of everything
 Everything has come forth from him (Ptah),
 Whether offering, or food, or divine oblation,
 Or any good thing
 He formed the gods,
 He made the cities,
 He equipped the nomes,
 He set the gods in their adyta (holy places),
 He made their offerings flourish,
 He equipped their adyta,
 He made likenesses of their bodies,
 To the satisfaction of their hearts,
 So that the gods might enter into their bodies.
 Of every wood,
 Of every costly stone,
 Of every metal,
 Of every substance."

It will be evident to the reader that the word "heart" in the above extract is used for "mind," while "tongue" designates the expression of the mind's content in language. That two such concrete terms should be used to indicate abstract conceptions is entirely Egyptian and common enough almost anywhere. Understanding these two terms, we see that the above composition is a hymn in praise of mind, with occasional reference to Ptah, with whom mind is identified,—a hymn which reminds us of the lofty didactic poems, in which some of the pre-Socratic philosophers, like Empedocles, were wont to set forth their systems. The system which our hymn proclaims is, for an age so remote, marvelously rational. The source of all things is mind, wherein all things originate as thought, and the efficient force by which these thoughts become objective realities, is speech. This notion of the efficacy of the spoken thought is one suggested to our Memphite philosophers by the use of the spoken word, always so efficacious in Egyptian magic. The use of the efficacious word in creation has long been known, as found in Egyptian theology. It has been especially treated by Maspero (*Bib. égyptologique*, II., pp. 373-380), who thinks the use of an unintelligible vocable by the god (as in a late Greek papyrus) is a *higher* form of creation. This is clearly

disproved by our text which makes the tongue the agent for the expression of *thought* in each case of creation. Such use of the tongue is unquestionably higher than the utterance of unintelligible, magical hodge-podge. Maspero says: "Au début, le créateur avait parlé le monde, plus tard il le sonna: il lui restait encore à le penser, mais c'est là une conception à laquelle les théologiens de l'Egypte ne paraissent pas avoir songé." It is just the prominence throughout our Memphite philosopher's system of the god's initial *thought*, which makes it new and gives his uttered fiat the dignity and loftiness of the biblical cosmogony, with its simple means: "And God said."

These two things: mind and its efficient force, speech, are identical with the god Ptah. The world then—I would not venture to say universe—is the product of the god's thought and speech. All the sentient beings in that world, viz., gods, men, and beasts,¹ (*sic!*) owe mind and speech at creation, as well as all the daily ideas which they act upon and carry out, to the god. They think and carry out that which Ptah wills. The gods are recognised as a kind of beings superior to men, and as Ptah is both their mind and their efficient force, they are, as it were, merely vehicles of Ptah, forms of him, or a kind of composite personality which is Ptah. Their only productive act in creation was that of furnishing to mind its means of receiving impressions from the objective world, viz., the senses, which "gratify the desires of the heart." There is no clear consciousness of the metaphysical problem,—no attempt to define mind or to distinguish it from matter. For matter itself, indeed, is unconsciously assumed, or if thought of at all, is conceived only in the finished forms, which are the realisation of the god's ideas.

The most remarkable feature of all this is the characterisation of the god as the mind in everything, whether gods, men, or beasts, and reminds one of Thales's statement, that "all is full of gods." This was an idea, as far as man is concerned, of which there is evidence in Egypt, outside of our document. Under King Thoth-

¹ Democritus ascribed reason and soul to all, even inanimate things.

mes III., the greatest of the Egyptian conquerors (sixteenth century B. C.), the court herald Intef says on his tombstone in the Louvre: "It was my heart which caused that I should do them (his services to the king), by its guidance of my affairs. . . . I did not transgress its speech, I feared to overstep its guidance; I prospered on this account exceedingly. I was distinguished by reason of that which it caused that I should do; I was successful through its guidance. 'Lo,' said the people, 'it is an oracle of the god which is in every body; prosperous is he whom it hath guided to the propitious way of achievement.' Behold, thus I was."

It is this teaching which justifies the statement that "everything (not excepting the works of his creatures) came forth from him," for every creature is but a manifestation and vehicle of the all-pervasive divine mind. Finally it is to be noted that this sway of Ptah is strongly ethical, rewarding virtue and punishing vice.

In estimating this Memphite system it must be clearly understood that our philosopher has tried to interweave his philosophical conceptions with the existent Egyptian mythology and pantheon. Of course, the original Ptah had in the minds of his priests no more connection with such philosophical notions, than had the early Greek gods with the later philosophical interpretation of their functions and relations, already beginning as early as the pre-Socratic thinkers, whose manner of thinking forms a parallel to the interpretation of Ptah in our inscription; a parallel which becomes much closer in post-Christian times. And just as, to the Greek mind, the philosophical interpretation of a god was often suggested by his place or function in mythic story, so in our Memphite system. Ptah had been from the remotest ages the god of the architect and craftsman, to whom he furnished plans and designs. Contemplating this god, the Memphite priest, little used as his mind was to abstractions, found a tangible line, moving along which he gradually gained his philosophical conception of the world. The workshop of the Memphite temple, where under Ptah's guidance were wrought the splendid statues, utensils, and offerings for the temple service, expands into a world, and Ptah, its lord, grows into the master-workman of the universal workshop.

This is clear from the fact that our inscription actually regards the world more as a vast temple workshop and domain, producing offerings and utensils for the gods under the guidance of Ptah. Like some thinkers of the present day, our Memphite priest cannot get away from his ecclesiastical point of view. But this *origin* of the Memphite system in the mythic god and the admixture of other mythic divinities does not deprive the *finished system* of its character as a philosophy, adequately explaining the world as our priest saw it. His doctrine of the ideal world stands of itself, and is stated more than once in entire independence of the mythic divinities and elements, which he also employs. It must furthermore not be forgotten that the earliest of the Greek thinkers were forced to similar recourse to mythic elements. Thus the first Greek philosopher, Thales, assuming water as his primal element, is unable to explain the cause of the rise of things from water. "He probably thought that the efficient force was directly combined with matter, and conceived this force in the spirit of the old nature-religion as analogous to living forces, as is seen in the assertion that "all is full of gods." Even the later pre-Socratic philosophers, like Empedocles, were likewise compelled to "annex moving forces to the elements in a mythical form." The only superiority of such philosophers over our Egyptian lay in the fact that their systems did not *originate* in the myth, but merely had recourse to it in the last steps. They began with matter and failed to arrive at one controlling mind; our Egyptian began with such a mind and never arrived at matter, in the Greek sense. But his conception of the function of mind and idea in a philosophical system is so clear and so high that it is *even modern* in its superiority over those strange objective "ideas" of Plato.

This is not the place to examine the genuineness nor the sources of the Greek tradition of the Eastern origin of their philosophy. Suffice it to say that it exists, and is defended as true by able and reputable modern students of the history of philosophy, like R  th and Gladisch.

I should be the last to imagine that any of the great systems of philosophy among the Greeks was as a whole transmitted thither

from Egypt. But it is now clear that valuable philosophical beginnings, denied and heretofore justly denied to Egypt by most historians of philosophy, existed in Egypt a thousand years before the first Greek philosopher was born. The objection to the origin of Greek philosophy in Egypt on the ground that no such material is to be found there, now falls away. The former opinion of archæologists regarding the sources of Greek art, is strikingly analogous to the present prevailing opinion of philosophers concerning the origins of Greek thought.

Winckelmann and all the early archæologists until two generations ago¹ maintained that the *art* of Greece was, both in its *origin* and in its development, solely the product of Greek genius. But the spade of the excavator and the studies of the archæologist during the last seventy-five years, have clearly demonstrated that while the *development* of Greek art and the exalted *ideas* of which it became the superb vehicle, are indeed solely the product of Greek hearts and hands; nevertheless the *origin* of many of the fundamental elements, so nobly employed by the Greeks, is far earlier in date and belongs to the civilisation of the East, especially Egypt. It remained for Greece, having received a great artistic inheritance from the East,² to assimilate its elements, to combine, to diversify, to enrich, to develop, and at last to employ them in the expression of ideals of beauty, which had never dawned upon the vision of the East. Thus it has become clear, that in art at least, Greece can no longer be cut off and isolated from the earlier past of the race. Again, the archæologists from the first perceived that the art of Rome was an inheritance from Greece, yet they did not draw a now obvious analogy, and conclude that likewise the art of Greece, in its turn, owed much to earlier civilisation. Roman philosophy was

¹ Down to Otfried Müller, who published his *Handbuch der Archäologie der Kunst* in 1835.

² I am aware that of late the classical archæologists are explaining the remarkable rapid development of Greek art in the sixth and fifth centuries by the influences surviving from Mycenaean civilisation. This however does not affect the established fact of the strong influence of Egypt noticeable in the earliest historic art of Greece, at a time, be it noted, when her intercourse with Egypt first became close and intimate.

likewise an adoption of Greek systems. Shall we like our fathers fail to draw the obvious analogy? Was art so isolated a fruit of Greek life, that, while admitting that it strikes its roots deep into the civilisation of the East, the other branches of the splendid tree must be excepted? There is not space here to note the elements in the Memphite philosopher's system, which, assimilated by the ready mind of the Greek, might have become pregnant seeds, ready to germinate and in that incomparable soil, to burst into the richest fruitage. Such potential germs, as our Memphite's "divine word," might easily have been of powerful suggestiveness for the later Greek notion of *nous* and *logos*. Again our philosopher's single, all pervasive mind, governing by thought, might easily have been the hint to Xenophanes in affirming the existence of but one god, "neither comparable to mortals in shape, nor in thoughts," 'all eye, all ear, all thought,' 'who without trouble, by his thought, governs all things.'" Similar comparisons will suggest themselves even to the casual reader of Greek philosophy. But probably enough has been said to show what it has been the writer's purpose to emphasise throughout, viz., that the rise of European civilisation is by no means as abrupt as it has seemed, and that the transition from the civilisation of the East to that of the Greek archipelago and peninsula was a very gradual one, a long period, which was neither the end of one nor the beginning of the other. During this long transition period, the Greeks assimilated not merely material forms in art, mechanical processes, customs, an alphabet, etc., from the East, but also some of its thought. That that thought was of a character to furnish a basis for the earlier philosophy of the Greeks, our document plainly shows. Moreover we must not forget, that while a part only of one such monument has survived, there must have been many on more perishable material which have passed away. Such thinking as our document exhibits was not confined to one stone slab; but elaborated and committed to papyrus must have been a common possession of the priesthoods of Memphis, Heliopolis, and the other great religious centres of Egypt, particularly those in the neighboring Delta, the region where Greeks were numerous residents from the seventh century

B. C. Under these circumstances, it would be almost a matter of course that the fundamental ideas of priestly thinking should reach Greece. Thus the Greeks, however great their genius, like every other people, are not to be cut off from their predecessors. In all the elements of life, they must have received their inheritance as all other peoples have done; and they bequeathed it to the later world, enriched as no legacy has ever been enriched by any other people.¹

TRANSLATION OF THE TEXT.

[The following translation contains all that is to be made out with certainty. A few obscure phrases are omitted, as well as the fragments around the left edge of the worn circle, which are too disconnected for rendering. The first two lines contain the superscription as given above (p. 324), and the text itself begins with line 3.]

(3) This Ptah is he, who is proclaimed under this great name.
 (4) The Southland and the Northland are this Uniter, who appears as King of Lower Egypt. [(5) left blank]. (6) He that begat him is Atum, who formed the Nine Gods, (7) to whom the gods offered when he had judged Horus and Set. (8) He defended their litigation, in that he set up Set as King of Upper Egypt in the Southland, from the place where he was born, Sesu (?); whereas Keb, he set Horus as King of Lower Egypt in the Northland, from the place where his father was drowned; (9) at the division of the Two Lands. It is Horus and Set who stood on the ground (?); they joined the Two Lands at Enu (?); it is the boundary of the Two Lands.

(10a) Keb (to) Set, speech; "Hasten from the place, wherein thou wast born."

(11a) Keb (to) Horus, speech: "Hasten from the place wherein thy father was drowned."

¹ I need hardly add that the above essay intentionally ignores the really philosophical systems found in Indian and Chinese theologies, etc. This has been done, because such systems have remained totally isolated and without connection with Greek or modern civilisation. Moreover they are vastly later than the Egyptian system presented above.

(12a) Keb (to) Horus and Set, speech: "I will judge you."

(13a-17a) Keb (to) the gods: "I have assigned the inheritance to that heir, to the son of the first-born son."

(10b) (To) Set the Southland! It is evil to the heart of Keb, that the portion of Horus should be (only) equal to the portion of Set.

(11b) (to) Horus the Northland! It is Keb, who gives his inheritance to Horus, he being the son (12b) of his first-born son.

(13c) Horus stands on the earth, he is the uniter of this land, proclaimed under the great name, "Totenen south of his wall," lord of eternity. (14c) The double crown flourishes on his head; he is Horus, appearing as King of Upper and Lower Egypt, Uniter of the Two Lands at the stronghold, at the place where the Two Lands are united. (15c) Now when the — (?) and the column were at the front of the house of Ptah, Horus and Set were united, joined, they became brothers, they no longer strove together. (16c) united in the House of Ptah, in the place wherein the Southland and the Northland join (?); it is this land. (Broken references to the Osiris-myth follow, and then comes the great central lacuna.)

.....
.....
(48) Ptah is the Being of the gods (??)

(49a) Ptah upon the Great Throne is.....

(49b)fashioner of the gods.

(50a) Ptah-Nun is the father of Atum.

(50b)fashioner of the gods.

(51a) Ptah-Nekhabet is the mother who bore Atum.

(51b)

(52a) Ptah the Great is the heart and the tongue of the gods.

(52b)at the nose of Re every day.

(53) He that became heart, and he that became tongue are an emanation of Atum....their Ka's being this heart and this tongue.

(54) Horus came into existence through him, Thoth came into existence through him, through Ptah, from whom proceeded the power of the heart and the tongue.... He is the one who makes to

[lost causative verb] that which comes forth from every body (thought), and from every mouth (speech), of all gods, of all people, of all cattle, of all reptiles, which live, thinking and commanding [lit., "commanding the word of everything....] everything that he wills.

(55) His Ennead is before him, being the teeth and the lips, the phallus and the hands of Atum.... (For) the Ennead of Atum came into existence from his phallus and his fingers; the Ennead indeed being the teeth and the lips in this mouth, which proclaims the name of everything; and from which Shu and Tefnut came forth.

(56) The gods fashioned the sight of the eyes, the hearing of the ears, and the smelling of the nose, that they might furnish the desire of the heart. It (the heart) is the one that bringeth forth every successful issue. It is the tongue which repeats the thought of the heart; it (the heart) is the fashioner of all gods, at the time when every divine word even, came into existence by the thought (57) of the heart, and command of the tongue. It (the heart) is the maker of Ka's.... the maker of every food-offering and every oblation, by this word, the maker of that which is loved and that which is hated; it is the giver of life to him who bears peace (the innocent), the giver of death to him who bears guilt. It (the heart) is the maker of all handiwork, and of every handicraft, the doing of the hands, the going of the feet; the movement of every member is according to its command (viz.,) the expression (lit. "word") of the heart's thought, that cometh forth from the tongue and doeth the totality of everything..... Ptah-Totenem, he being the fashioner of the gods; everything has come forth from him, whether offering or food or (59) divine oblation, or any good thing.

He is Thoth, the Wise; greater is his strength than (that of the gods. He united with Ptah after he had made all things, every divine word; when he formed the gods, made the towns, equipped the nomes, placed the gods in their adyta, (60) made their offerings flourish, equipped their adyta, made likenesses of their bodies to the satisfaction of their hearts; then the gods entered into their bodies, of every wood, of every costly stone, of every metal (?),

and everything, that grows upon his....(?) (61) from which they come. It is he to whom all the gods sacrifice, their Ka's being united, associated with the Lord of the Two Lands. The divine storehouse of Totenen is the Great Seat attached to the heart of the gods who are in the house of Ptah, lord of life, lord....wherein the life of the Two Lands is made.

(62)¹....Osiris, he was drowned in his water; Isis and Nephthys saw; when they beheld him, they were of service to him. Horus gave command to Isis and Nephthys in Dedu, that they should save Osiris, and that they should prevent that he drown. (63) They went around....(?), they brought him to the land, he entered his secret structure in....of the lords of eternity, at the footsteps of him who rises in the horizon upon the highways of Re in the Great Seat. (64) He associates with the court, he becomes a brother to the gods.

Totenen-Ptah, lord of years, he hath become Osiris in the land, in....on the north side of this land. His son Horus comes to him, appearing as King of Upper Egypt, appearing as King of Lower Egypt, in the presence of his father, Osiris and the gods, his ancestors, who are behind him.

JAMES HENRY BREASTED.

UNIVERSITY OF CHICAGO.

¹ The *n* at the head of the line may be the negative as at the head of the duplicate line (19), so that we could render: "Osiris was *not* drowned in his water." The statements in ll. 8 and 112a, that he *was* drowned, would then probably indicate that he was merely nearly drowned.

EXPERIMENTAL INVESTIGATIONS IN TELEPATHIC HALLUCINATIONS.

VIII.

THE chief conclusions from the evidence presented in the last number of *The Monist*, stated as immediate inferences from the figures, are :

1. So-called telepathic hallucinations actually exist, and moreover they manifest themselves on a large scale, at any rate among our subjects, in ways contrary to the common belief in the matter.

2. They appeal in several sensorial forms: most numerously in the sense of sight, and next in that of hearing. Telepathic hallucinations are also found in the senses of touch and of smell, a fact which, so far as we know, has not been sufficiently emphasised before.

3. There is a striking inconsistency between the firm belief in the coincidence of telepathic hallucinations and the reality of the fact determined by the experimenter; thus, to cite but a single case, out of 1011 cases examined into, of which 981 were accompanied by a complete belief in the reality of the fact, we traced up 943 errors and found but 40 exact coincidences. The same relation is shown by our other figures.

4. The proportion of genuine cases per hundred is exceedingly small, and notably so if it is referred to the total number of cases examined; thus we have 5.47 per cent. if we take account only of those cases which showed some exact coincidence confirmed, and 2.61 per cent. in the contrary case, or further, only 2.25 per cent. the total number of cases, 1374.

5. Women as well as men experience these hallucinatory sen-

sations, although women are somewhat more subject to them than men, but the amount of education counts for a good deal in this matter. Higher education seems to free the mind from credulity, and renders it somewhat immune to telepathy. The existence of telepathic hallucinations is certainly proportioned to the sentimentality and the orthodoxy of the subject. A believer is more liable to such states of mind than a rationalist, a fantastic imagination than a logical mind. In order to better prove this statement we must emphasise the observations made upon the belief in telepathy in various circles. In France, as well as in Roumania, there is always, according to my observations at least, a close relation between training, environment, education and social or other beliefs. For instance, among peasants, religious as they are in almost all countries, belief in telepathy is a positive, indisputable fact; it is the same among priests, nuns and the more or less educated orthodox believers. This belief decreases considerably in artisan circles that possess some degree of information about social, intellectual and religious life. Among the learned classes faith becomes almost null and is replaced by a sort of rational skepticism or by a profuse argumentation, which in some cases leads to the conclusion that such facts are possible, and then a certain credence is given to sensorial hallucinations, and in other cases leads to more or less logical conclusions that would force the unknown and the problems of the unknowable, according to the manner in which their solution is regarded. The conclusions are mostly involved, being mixed up with occultism, spiritualism, and transcendental dogmatism besides. Here are some figures that finely illustrate our assertions:

	PERCENTAGE OF PROB- ABILITY CREDITED TO TELEPATHY.	
Peasants lacking education entirely.....	90	per cent.
Priests having religious instruction.....	98	"
Priests having mediocre or higher education (20 sub- jects).....	68	"
Artisans and employees of moderate education.....	25½	"
University men; publicists; writers.....	9.5	"

Each report is based upon the determinations made with 50 subjects, all in Roumania. The peasant is religious and credulous,

and telepathy according to his intellectual conceptions is perfectly logical; while the educated man, here as elsewhere, is rationally skeptical, which does him credit.

In France we have likewise made observations in various environments; our reports refer to 30 cases of each class, and we regret not to have been able to make observations in religious circles. Nevertheless, from certain conversations and observations that we have gathered the fact is brought out clearly, that the priest and the educated orthodox man believes in everything that pertains to the miraculous. I should even go so far as to say that a miracle does not appear phantasmagoric to them, as it does to us, and that according to their logic it is almost a biological fact, if not more. Among the peasants of the neighborhood of Paris and Royon the percentage of probability was 78 per cent.; it was 12 per cent. among the artisans, and strange to say, here the intellectual people, university men, publicists, writers, gave the hallucinations far more credence than elsewhere, and much more than did the artisans; the average probability indicated by this class is 36 per cent. Is this perhaps due to the occult, magic, mystical sciences of all sects that engross the finest intellects in Paris? I am really not able to decide. The fact seems to me certain, however, and the more so since the circles devoted to the more or less scientific cult of the marvellous are more numerous in Paris than elsewhere, and they receive more attention from the intellectual world here than in a quietistic country of the East.

It is also to be observed that the age of the subject counts for something in the credence given to telepathic hallucinations and to their existence. A young man rarely has such hallucinations, while a mother, a father, in other words an older person, is more likely to experience them and to believe in them. It seems to me an established fact; I have met it in all classes of society, and it would seem that to feel this kind of sensitiveness to telepathy, one must have had more knowledge of life, deeper, dearer, more enduring memories, sorrows and experiences, than fall to the lot of young people who are still charmed with dreams, with the ideal, and with life that has scarcely begun to tremble upon their lips. Life spreads

out into infinity before them, it is still the inspiring source of beauty, of desires; it still enfolds the mysterious future, and the real sorrows of life have not tortured their brains which are like flowery fields. For those that are older the mysterious makes a stronger impression upon their life; the future is less gloomy, and the eternal, "What do I know?" or "What am I?" becomes categoric. One can know, and the need is felt of gathering up as we go, the crumbs of our lost life, of our scattered ego. Attention is turned toward the sources of the affectionate emotions, and the mind more readily yields to the hallucinations of the senses, being the prey of pain, grief and unsatisfied hopes. This is the psychological explanation that we give for the influence of age and the belief of older persons in telepathic hallucinations.

IX.

Before concluding and before formulating our hypothesis upon the nature of telepathic sensorial hallucinations we ought to discuss and criticise the interesting observations of the English investigation of telepathy. We have already shown in the course of our exposition the dominating idea of our work, and a fuller collection of evidence would in our opinion be useless. The most important criticism that could be made, and that has already been made, of the English investigation is the implicit confidence given to unknown subjects, in spite of the apparent reserve repeatedly expressed by Messrs. Gurney, Myers and Padmore. We shall let these authors speak for themselves, quoting their own words, although it is true that they write in their introduction (p. 13). "In order that the facts which we have collected may be convincing, it is clear that they ought for the most part to be gathered by ourselves." And further on: "Even if there had existed sufficient well-established testimony to excuse us from collecting any more, it would still have been advisable for us to see the persons that were the subjects of these strange hallucinations, and to talk and correspond with them. That would be the only way to make sure of the good faith of the witnesses." This is the method that I myself have followed and I am sure that it will be regarded as the best

one; my English contemporaries concede this themselves. I am willing to compare my results with theirs, after having learned from their own admission how much confidence and how little analysis they bestowed upon their subjects.

At the bottom of the same page (13) we read: "Of course we are not safeguarded from involuntary errors of observation and of memory, but yet it should not be assumed that our correspondents in general have less precise and less accurate faculties than the average of men. Our exact and precise method has relieved us of all the sentimental and ill-balanced spirits that love the mysterious for its own sake. On the contrary, we have met with very frank responses from a large number of people who have felt with good reason that the obscurity with which these events are surrounded makes it still more necessary to report them with exactness and soberness. The simple and precise style of most of our correspondents, the honored names borne by some of them, may give the readers something of that confidence which our spirits have received from a closer contact with the facts."

Further on, p. 22, in the second chapter, the authors express themselves as follows: "It is the accumulation of experiences that should establish certitude. We do not base the proof of the exactitude of our experiences upon the honesty and the intelligence of each individual experimenter, but rather upon the fact that it is inconceivable that a large number of reputedly intelligent and honest persons should all permit themselves to be tempted into fraud, or should all have been deceived."

"We have a large number of testimonies first-hand," write the authors, p. 54, chapter IV, "coming from intelligent and educated people whose common sense has never been questioned. The majority were not disposed in advance to admit the reality of the phenomena. In many cases their accounts did not seem to them to contain anything of special interest. While unable to deny the facts of which they had been witnesses, some of them even professed an entire skepticism regarding this class of phenomena. The facts themselves do not involve any particular belief. There is in this a striking contrast between telepathy and the apparitions of

the dead. The belief in the survival of the dead beyond the grave is widespread among the people, and no less so that of their appearance to their relatives and friends. But the same cannot be said of apparitions at the moment of death. Without any doubt we find instances of this in works of history and tales of travel; but while these examples are numerous, they are isolated, and even those who speak of them mention them as rare marvels; they do not introduce them as evidence in support of some general belief. This notion is even so new that on most occasions apparitions of this sort have been regarded by those that saw them as being apparitions of those already dead."

All these considerations and others still more numerous lead the authors to believe "that they prove, supposing that we interpret them correctly, that a spirit can act upon another spirit or receive impressions from it by other means than those of the senses."¹ In such a conclusion as this ended the investigation of the London Society for Psychical Sciences, conducted since 1882 by Gurney and Myers. We remember that the English authors had invited the public to respond regarding such facts as they might know relative to the apparition of persons at the point of death or after death.²

One fact is certain in the investigations of Messrs. Gurney, Myers and Podmore, and this is, that they have too great confidence in their subjects, at least for the majority of anonymous correspondents, and accept as more or less disputable truths, but yet as truths, all the lucubrations of the numerous correspondents who reply to their inquiry. It could not have been otherwise, considering that these documents by this very title constituted for them a body of truly scientific material.

In our opinion, there is to be found in this very fact a large and striking source of error, which explains, moreover, the conclusive disagreement of our investigations. In the preceding pages I have presented in outline my doubts regarding the mental condi-

¹ P. 17, *op. cit.*

² A first glimpse of the "directory idea" of this sort of study had appeared before this in the *Fortnightly Review*, May, 1883.

tion of the subjects, and I shall endeavor to summarise them thus: It is not possible to repeat such simple notions, which seldom take deep root in our thought!

My personal investigations as well as those of the Society for Psychical Research show clearly that there was almost always, with very rare exceptions: (1) a common intellectual ground between the two persons who constituted the subject and the object of the telepathic hallucination. They possessed—and my cases furnished a striking proof of this—common and intimate intellectual relations, common and dear memories the product of many years; they had had some common love, or friendly sentiment, or kinship, or profound sympathy of an intellectual or more notably emotional nature. A parent experienced the telepathic hallucination regarding his son, his wife, a friend, etc., a woman has an hallucination regarding her fiancé, her father, her grandmother, etc. And the more the person was loved, esteemed, and cherished, and the more he counted upon an established affection, the more frequently did the telepathic hallucination concern him, at least in our experience.

2. The second fact that presents itself is, that the person who constituted the object of the hallucination was always suggested to the mind of the subject as in agony, at the moment of yielding up his breath, or in some cruel and atrocious physical or moral suffering which approximated that of the death-agony.¹ These two facts prove in our opinion that the foundation of telepathic hallucinations is nothing but our psychic life with its complex mechanism and its delicate and inscrutable associations.

In fine, we have to do with a special mental state, a state of profound emotion, a psychic condition which thrills and revives our whole being, for we must not forget that the hallucinations sometimes involved friendships and relations begun in childhood, the period in which memories are fixed forever. We never forget our mother, and the tales told us by grandmother and grandaunt while gazing at the moon, where sleep Pierrot and Columbine of the leg-

¹We might have given here more averages and additional tables to illustrate our conclusions, but we spare the reader, the more willingly because the extent of this article has already surpassed the ordinary limits of a memoir.

end, and where goodman Noël has his palace, cut in our minds furrows that last for life.

The psychic condition is therefore more intimate than any other whatever, being nothing else than the fabric of our affectional and emotive supports, in fact, ourselves. This special condition is strengthened by another no less peculiar, that of the dying man; and whatever Messrs. Gurney, Myers and Podmore may say of it, to the mass of people a dying man is almost a dead man; it is the most emotional of all states, more so even than death itself. Moreover, there are legends and beliefs and a whole literature of marvels which have extensively popularised in almost every corner of the world the idea of the soul's independence of the body, and have described in detail the mysterious voyage of the soul of a dying man to the land of his birth and to the souls among which he had formerly found repose, friendship, love, or some moments of happiness. The Christian religion, with its admirable philosophical conceptions, has contributed extensively, in my opinion, to the stress laid upon this ethereal voyage of the soul. Both in Roumania and in France, in the course of experiments which I conducted on the psychic condition of those about to die, I found this belief, the existence of this idea of the voyage of the soul of the dying man to his native land, in surroundings which were very far from being in the current of intellectual investigations concerning psycho-telepathy. The death agony, the coma of the dying, is often an indication that the soul is going away, is mournfully setting out towards its kinfolk, to give them the final notice of its departure for the distant land of dreams and ideals, the "other side" of the thinker and the believer. The idea exists, then, and even in the state of a belief, although without the popularity of the other phenomenon, the telepathy of the dying; this is one of the reasons why the hallucinations of this category are much less numerous than in other lines.¹

These general considerations lead us to believe that the information given by subjects under the influence of this point of view

¹ We shall treat the telepathy of the dead on another occasion.

cannot furnish a scientific documentation unless one has been able to verify it himself and at first hand.

The mental state suggested by such situations, as I have been able to examine it as a personal witness and to follow up the genesis and the evolution of a telepathic hallucination, is an inexhaustible source of errors. The figures and the tables which I have shown and interpreted above leave no room for doubt on this point. Beside these facts, which are of a very special kind, psychic life itself is far from admitting the rigorous tests and the synthesis that are commonly ascribed to it. There are different psychic polarisations every hour, and even every minute, and under the influence of the multitudinous conditions of social life or of conscious or subconscious psychic life the attention usually has the stamp of a dream. Those who have studied dreams will, I hope, agree with me in thinking that there is a perfect resemblance between the logic and the association of a dream and that of the intellectual life when unoccupied, free, vagabond, distraught, or pensive. In these circumstances, then can we count upon affirmations of a past fact to which more or less importance is ascribed, a fact reconstructed perhaps from memories mostly false? Systematic investigations of the localisation of memories and the researches into telepathic hallucinations which we are here giving in résumé have shown us in a manner almost categorical that oblivion causes serious havoc with the precision of facts. False memories value facts of the imagination, and the suggestion of the matter immediately in hand makes new associations, which by virtue of analysis and attention fix the mind of the subject upon conspicuous features of his life, which he associates together consciously or subconsciously in his own fashion. Errors become still more considerable when we are dealing with a miraculous fact, with an event that involves the supernatural, death, mystery; years become days, and the actual inconsistency comes to be regarded as a perfect accord. I was very close to my subject, and even a very choice subject, such as a university-trained Frenchman, a publicist and writer of talent, whom I could observe very near at hand; and I established the fact that he very easily became involved in his dates. Mystery, as well as

the supernatural when actualised, intoxicates and poisons the organism, causing in our opinion a profound amnesia accompanied by an exaggerated self-esteem and the almost complete absence of any new synthesis. The more or less remote realisation of a fact which had never perhaps done more than dance lightly through one's mind produces what I shall call a psychic paralysis, a sort of intellectual blockade which leads us into revery, into exaltation or depression as the case may be.

These errors increase when they are accompanied by beliefs and false opinions which feed day by day the impressions seen or dreamed. Under these circumstances they become almost fixed beliefs and accomplished facts.

And then, *false cognitions*!¹ They swarm in our minds! How then disentangle the reality from the point of view of illusion and of belief? A task of sufficient difficulty when one is master of his subject; how shall one accomplish it when he receives the replies in writing, and from anonymous correspondents at that, who are expected to remember whatever hallucinations they have experienced during the past ten years?

We are, therefore, very far from feeling the same confidence which Messrs. Gurney, Myers, and Padmore accord to their subjects, and our reasons for our position are very serious.

In recalling a fact from memory one is sure, or almost sure, with very few exceptions, even if the event took place but a few hours before, to find some errors. What then of the chances of ten years! How many memories forgotten! What a confusion of sub-consciousness, of precision, of lies, of illusions and of feelings! It will be said, on the other hand, that the phenomenon in question touched a vital fact in the psychic life of the subject. That is true; here we agree: there is in this fact a certain presumption for the evidence, but the sources of error are no less great when a vital feeling is involved which is contained within a vague environment, the details of which are sometimes artistically confused in accordance with whatever caprices have been stirred or provoked afterwards.

¹ On this subject consult the well-planned work of M. Bernard Leroy. Paris: Alcan.

Letters and other documents of this sort do not signify much, for it is necessary to know the mentality of the authors and the psychological conditions when they took up their pens to write or to note down in their studies this or that impression. My information as to the mentality of my subjects and especially the means of testing them have, I confess, given me much trouble, and I am very far from thinking that I have discovered all the intellectual factors that are involved. And I doubt greatly the value of the information given by a letter which narrates phenomena that took place over a period of ten years and emanating from a mind interested in the subject by an inquiry merely picked up in the reading of a journal. There are still other little susceptibilities that might be involved; man never fails to affirm his own existence, and especially the continuity of his identity, as Spinoza observed. One replies to a question out of curiosity, custom, or desire to accentuate a personal belief, self-love, a hallucination, or the like, for we must never forget that there is always a sleeping animal at the bottom of every human soul!

The English authors maintain that the assertions of an illustrious mind moreover have an especial scientific value. This utterance renders a digression necessary. The statement is but partially true. For why, and by what reasoning, attribute to a learned and illustrious person the gift of self-analysis, and especially good scientific and psychological sense, a gift rare enough even among the choicest minds? Mr. X. may be a brave general, an admirable technician, but totally lacking the power of self-analysis, of knowing his own condition of soul at any given moment, or of recognising the sources of his thought. The same is true of a mathematician, a physician, a poet, a novelist. It must not be forgotten that among the finest minds, particularly among literary people, ignorance of psychic life is most characteristic, and credence is given to any supposed fact whatsoever, as for instance, to a dream or a commonplace saying that is in everybody's mouth. This is the way I explain how it happens that occultism, magic, spiritualism, and all these vague sciences have full sweep in this world of dreamers, where, although the talent and sometimes the gift for

analysis are not lacking, yet they are directed toward other aims, such as: subjects for novels, hair perfumes, rhymed quatrains, etc.

A sad occurrence, or especially the thought of death, may produce amnesia, and, facilitating false cognitions, helps to circumscribe the mental life of the subject with a vicious circle. The thought of death haunts us frequently, especially with increasing age, and in course of time it becomes the *Leitmotiv* to which any sensation whatsoever adheres, and it is aroused by the slightest suggestion. Social environment furnishes the motives by means of its various agencies: publicity, social life, conversation, etc., each of which arouses the individual life of the subject, starting the automatic, vicious circle of thought and with it the notion of misfortune or of death. This is intended to show the necessity of taking into account the ideas among which the subject lives, the psychic, hygienic and other conditions that surround him, and likewise those that surround the absent person, the object of the hallucination. The notion of death haunts a mother that knows her child, or a relative, or a beloved friend to be in a village where an epidemic prevails. This same thought daily conjures up telepathic hallucinations in the mind of a woman whose betrothed is away at war, or during a storm, when she knows that he is in a fishing-boat upon the tempestuous sea. The condition is of vital importance and should be taken into account from the start. Our observations on this point are categorical, and they prove that in 97 per cent. of the cases the ideation of the environment was the source, or rather one of the principal factors, that suggested and produced the telepathic hallucination; in the other 3 per cent. of the cases the family and social ideation of the environment of the subjects could not be as carefully examined as in the other cases.

The example of coincident telepathy mentioned a few pages back, taken at random among many, is a typical case, showing the importance of knowing the mental condition of the subject, and of a previous, intimate acquaintance—or supposably such—with the object of the hallucination. Mme. N. loved her husband; a sweet and calm life of more than thirty years had glided by; she knew her husband's nature and had repeatedly praised his courage.

He had met with quite a number of accidents during his life, and had always got out of them very nicely. He had jumped several times from his carriage when the horses had run away. So much for his character. At the same time she knew the horses,—nervous beasts that took fright at any noise. And thirdly, she knew that the coachman was a drunkard, and that he had been in the habit ever since he entered their service of taking a drop too much of the town alcohol. The weather was bad; inundations were threatening, and Madame N.'s husband was rather old, already entering his seventy-second year. Several different times Madame N. had counseled her husband to prudence, and especially not to mount a horse, nor to expose himself to danger in any way. Before leaving he had greeted her with a smile, telling her not to worry; that other accidents had happened along his way before but that he had always come out unscathed. And besides, business was urgent, and she must yield to the inevitable. Madame N. remaining behind, busied herself with her household duties but was by no means reassured; the weather, and especially her special mental condition, contributed largely to render her more melancholy. However, the hallucination took place before the fact occurred, and the psychological explanation is very plausible. Having urged Madame N. to analyse herself, she had confessed to me that she believed that her husband would return before breakfast, as was his general custom. Her sub-consciousness was at work, however, and aided by the somatic and automatic intellectual life of the subject concerned forced itself upon the attention as a credible hallucination, startling us by its spontaneity, although in fact it was the expansion of a sub-conscious ideation, which had escaped the attention of Madame N., as is the case with all persons who experience credible hallucinations. However, this variety has been less numerous. As for the others, our figures have shown that they exist only in the imagination of the subjects and that they are based on no reality whatever.

XI.

Unfortunately it is not sufficient to indicate the name of an author, his address, his nationality, his titles, in order to have a

scientific documentation of a fact, and we believe that our arguments have sufficed to call the attention of the reader to the slight guaranty of veracity offered by such investigations. Furthermore, let us not neglect to criticise these investigations as they stand. They entertain, they deceive, they secure titles for those who conduct them, and with rare exceptions they deserve to attract attention, and then they should be restricted to a small and local number of subjects. Wholesale facts are more or less striking, it is true; but there are so many extraneous matters involved that unfit them for any real use, and they require then so much careful examination and extensive individual study.

We find this same condition of easy credulity in the evidence collected by another scientist, M. Camille Flammarion, who in reporting an investigation conducted by himself on the telepathic manifestations of those about to die writes: "The striking thing in all these accounts is the sincerity, the conscientiousness, the frankness, the delicacy of the narrators, who are so careful to say only what they know and just as they know it, neither adding nor withholding anything. Every one is the servant of the truth!"

Charming words, and such solemn serenity!¹ M. Camille Flammarion demonstrates that he has a tender heart, that the man who thus reasons is a man of sentiment, but who forgets all our abundant evidence on the psychic mentality which has been collected with incomparable perseverance throughout several decades in all the hospitals and laboratories of the world. To put such trust in the "sincerity," the "frankness," the "conscientiousness" and the "delicacy" of the subjects reporting is to confess squarely that the investigation has been conducted like the others we have been criticising. For it is not sufficient to be a worthy man and an honest in order to deserve credence in the analysis which anyone makes of a certain mental state, x , x' , or x'' ; honesty has nothing to do with the matter. Unconsciously one sins by lack of ability to analyse, to observe adequately, to concentrate the attention, etc.; one fails to fix his impressions well, and he fails still worse in recalling them.

¹ Camille Flammarion. *Des Manifestations Télépathiques des Mourants*. Nouvelle Revue, CXX. 1889. P. 456.

M. Camille Flammarion had launched his investigation into the world by the channel of the *Annales*, by that of the *Petit Marseillais*, and of the *Revue des Revues*. In the *Annales* it appeared in the issue of March 26th, 1899, and in the other publications the months of June and July. It was formulated as follows:

"Will our readers have the kindness to send us a simple postal card replying with Yes, or No to the following questions:

"1. Did you ever experience while awake the distinct impression of seeing a human being, or of hearing him, or of being touched by him, without being able to refer this impression to any known cause?

"2. Did this impression coincide with a case of death?"

M. C. Flammarion received a large number of replies more or less detailed, of which a large number were unworthy to be discussed as evidence, and he retained 782 of the affirmative answers as important; there were altogether 4280 replies, 2456 being negative and 1824 affirmative.

Reviewing this investigation we shall permit ourselves to criticise it for the suggestive and defective way in which the questions were formulated, and secondly because the author has made a selection of his evidence. From the scientific point of view negative answers are no less valuable than affirmative answers. And in fact, what important reply could the readers of M. C. Flammarion's questions make to his demand of Yes or No? This recording of negations and affirmations could not at the best do more than give an idea of a vague report, at least in our opinion, of the public opinion of educated people.

We have a particularly high esteem for the author of "*L'inconnu*," and as a devoted reader we owe him a great debt, but he must permit me to criticise him as a psychologist. In psychology figures that are not accompanied by data regarding the mental state and the psychologic conditions under which the figures were made are subject to several criticisms, and especially so from the scientific point of view.

Let us note in passing the very just remark of M. Flammarion, that "a great number of these facts—in telepathic hallucinations—

are subjective, take place within the brain of the witnesses, even though determined by some exterior cause. A great number also are hallucinations pure and simple. What they teach us is, that there are still a great many things we do not know; that there are in Nature unknown forces which are interesting to study."¹ And I would add on my own account, and I believe that M. Camille Flammarion will agree with me, that there are still more unknown forces and phenomena scarcely studied in the brain of man, in our psychic life.

At the Congress of Psychology in Munich several communications were presented on the subject of telepathic hallucinations, together with discussions and communications as interesting as they were ingenious, in which the participants were: Dr. Bager-Sjögren of Upsala, Mr. and Mrs. Sidgwick of Cambridge, authors of a rich and remarkable mass of evidence on telepathic phenomena, Dr. W. V. Dechterew of St. Petersburg, Edmund Parish of Munich, and M. Charles Richet of Paris. The conclusion seemed to be that "it is very probable that there are no credible hallucinations." Knowing only the abstracts of the communications presented to the Congress I cannot dwell upon their methods nor discuss their evidence. However, our remarks in the present paper will apply to them in part also and to their conclusions which are but a continuation of the remarkable observations in the investigation of Messrs. Gurney, Myers and Podmore.

XII.

After having interpreted our evidence, a new question arises: Can we conclude that telepathic hallucinations exist as well-defined psychic phenomena, or are they only sensorial hallucinations based upon no positive, actual data, and occurring only by chance? The explanation of the phenomena depends, of course, upon which of these two hypotheses is accepted.

Our evidence proves, first of all, that the coincidences seem fortuitous rather than dictated by any biological or physico-psychic

¹The memoir quoted, p. 458.

laws, and secondly that they are more numerous than has been claimed. The English authors conducting the investigation of telepathic hallucinations resorted to the calculus of probabilities in order to show that the results obtained belong neither to the domain of chance nor to that of fortuitous coincidence. In fact their mathematical calculations based upon the average of mortality, and upon the probability that a person should have experienced a hallucination during the period of 12 hours coinciding with the death of a friend or relatives etc., show according to their opinion and according to their algebraic ratios, that if hallucinations were due merely to chance, there would necessarily "take place in a group of 300,000 persons, in 12 years, 182,500 hallucinations, that is to say that three persons out of five would have experienced a hallucination during that space of time." But from their investigation the contrary is shown; telepathic hallucinations are much less frequent, and exceed the probability expressed in more or less imaginary figures.¹

Statistics and mathematical arguments deceive rather than instruct the eye. Setting aside the figures, and the probabilities more or less reduced to a common fact, as well as special mathematical reasoning, the calculation is not strictly exact, owing to the absence of the chief statistical data. For, in order to calculate such a probability mathematically, it would be necessary to have numerical data concerning the probability of the person's death or illness, numerical data concerning the state of his health, concerning his environment, concerning the mortality of the country and town in which he was living, as well as such data concerning the person experiencing the hallucination, at the time of the observation, in other words, data concerning the probability of mortality, eliminating as far as possible the tabulation and vague generalisation of statistics as commonly made. Not being able to obtain these data about my subjects, I have not dallied with this little mathematical calculation for any class of my subjects. I simply insist on the value of these manifold factors, which are already beginning to receive the atten-

¹ On this subject see Chapt. X. on the "Theory of Fortuitous Coincidences."

tion of statisticians; mortality varies with the social class, with age, and with social conditions. The probability changes according as the person lives in town or in the country; as he is 70 years or 20; according as he is sound or feeble. Only when such statistics and still others are made, can the psychologists make use of the dates, not forgetting however to take into account and to weigh well the personal coefficient of the statistician, of the observe, and of the observed. The calculus of probabilities would still be superfluous, for the credibility of these 48 cases of coincidence out of 1325 cases investigated and connected with 34 persons, show sufficiently that they are out of the bounds of probability.¹ However, what would be the value of this probability when it is in flagrant contradiction with the most elementary biological notions? In an experiment where only 2.5 per cent. or even 3 per cent., or again 0.3 per cent., or no result whatever was found, probability does not exist scientifically, so to speak. Why not hold to this simple confirmation of scientific common sense and why search for special reasons which confuse the results by introducing into the calculation a considerable number of unknown quantities? I have studied long on the part due to the calculus of probabilities and to these scientific data, and despite the vital problems involved, and despite the value of these discussions of mathematical philosophy, I incline to believe with my illustrious master, M. Bertrand, who attributed to it less value than to the data of simple common sense. Apparatus is full of temptations, and in our days the psychologists of the new school intoxicate themselves with a certain number of mathematical formulæ instead of reasoning simply, and the sight of these probabilities, derived no one knows very well whence nor in what manner, hypnotises them to such a degree that they treat our mental acts like numerical data, and the development of our wretched psychic analyses like precise measurements, like millimeters read by the

¹ Roumania has a very large percentage of mortality. The most recent statistics published, those of 1894, show that in 1893 there was a mortality of 31.5 deaths for each 1000 inhabitants, while in England there were but 16.6 deaths per 1000. See *Mouvement de la population de la Roumanie en 1894*, par Leonida Colescu, 1 Vol., pp. 95, iv. Bucharest, 1900.

vernier. Speaking from the point of view of biology and reckoning with these multitudinous conditions of a psychical, physical or statistical nature which we have treated in the preceding pages, it seems to me a little premature to attempt to apply such a learned mathematical process, which, moreover, has yet to be formulated precisely and scientifically, to such vague and intangible data.

Telepathic hallucinations, judging from their considerable number, from the degree of their illusory subjectivity, and from the small proportion of credible cases, do not seem to hold rank as well-defined psycho-mechanical phenomena acting independently of the sensorial agent. We do not consider this proportion of credible cases as a matter of chance; it is a fortuitous coincidence which in our opinion is easily explained.

Comparison has been made, and properly, between telepathic phenomena and the phenomena of mental suggestion and of the transmission of thought at a distance. The fine investigations of M. Richet, which I have continued on a large scale, present among others most valuable evidence. Hallucinations are purely subjective phenomena depending on ideation directed consciously or unconsciously by any association whatever of automatic or voluntary ideas. All the facts discovered in telepathy have taken place under very special, yet very definite, conditions. The persons concerned are always absent and far removed one from the other; the conditions are always emotional and the persons are intimate acquaintances, relatives, friends, lovers, people who have lived a long time together, and who know each other thoroughly. Telepathy always concerns serious misfortunes, mortal agony, the state of approaching death, and the situation recalls the person in his suffering with his familiar gestures—our investigations furnish a striking proof of this—with almost the same garb, the same accent, the same physiognomy by which the person had been known despite the time and space separating the persons and the difference of conditions from the reality, whatever it might be. Our observations have furnished us definite evidence on this point and notably have shown a conclusive discrepancy between the actual physical conditions of the subjects in the credible cases and the conditions seen in the

hallucination. In the English investigation, despite the paucity and inaccuracy of the tested evidence, we may find this same predominant shade of subjectivity in the persons who experienced the telepathic hallucinations. They have a personal stamp and seem to be the exclusive product of the thought of the subjects.

Some of these cases of fortuitous coincidence can in my opinion be explained by what I shall call "pre-established intellectual harmony," to borrow the terminology of the philosophy of Euler and Leibnitz on the relation of the soul with God. In practical life our mental states harmonise in conformity with our impressions, our instincts and other intellectual or bodily springs of action; this harmony is generally controlled by emotion, by the efficient energy, the fundamental and primitive substance of our being. From the age when reason begins to formulate any sort of psychic synthesis our spirit is always trying to be in harmony with other minds in conformity with our desires, our emotions and our intellectual motives. Puberty comes later with its almost morbid expansion of the desire for harmonisation, and finally adult age arranges and models our sympathies in accordance with already established psychic conditions.

XIII.

At the bottom of each one of us there is an unsatisfied capacity for sympathy, a melancholy tenderness, which persists despite our learned reasoning, despite our psychologic analyses conducted with marvellous erudition. Beside this emotional foundation slumbers in our soul so to speak a dying being, a mystic. This is the very essence of our being! Transmitted by heredity this casket of mystic sentiments, as it were an elemental state of our consciousness, disturbs us from the moment when we have succeeded in establishing a more logical relation between the vital "ego" and the mysterious "non-ego." The "non-ego" haunts us, disturbs us and at the same time unconsciously or subconsciously this refrain comes like a dominant motive into our thought, now tender, now melancholy, and now categorical and cruel. It is the patrimony of the superstitions of the ancients, the synthesis of their fears, their mysteries,

their ignorance and their terrors. For every belief has something more at bottom than "the infantile spirit of the savage," despite the opinion of Tylor, Spencer, and Sir John Lubbock; it rests upon deeper psychological facts. A belief is the elementary form of a whole system of metaphysico-biologic dogmatism. Our hair grows gray, age separates us from our years of indifference, the eternal "What am I?" "What do I know?" and "What is to become of me?" press upon our spirits with ever-growing persistence. Here we have the whole past of humanity speaking within us!

This state of mind assists largely in directing our thought toward that condition of harmony, toward those ties of sympathy which by their charm, their confidence and their tenderness will put more of reliability, of self-denial and of trust into our human relations. To be solitary is the mark of a genius; it is the possibility of thinking, of struggling against the "barbarians" of every sort who invade the sanctuary of our thought. But how many of us, even among those who are thinkers, will be able to endure that state of soul? Exceedingly few. We seek for affections, and we find them; we retain them as part of a cherished patrimony of our past, of our remembrances; we never cease to think of them, and most of all when we separate one from another.

The purely emotional or intellectual affections, as the result especially of a life spent together by the persons concerned, would finally establish what I shall call the *psychic parallelism* which consists in a sort of pre-established harmony. There is produced an *intellectual mimetism*, quite analogous to expressional mimetism. In this connexion I am able to cite certain observations which I have been making for a long time, and which have demonstrated to me the delicate affinity that may exist between two parallel psychic lives. Lovers are a typical example, likewise mother and child; knowing each other well, each knows even at a distance exactly what the life of the other is; they can conjecture each other's emotions and annoyances, and in the long run they can comprehend each other's intellectual state, especially in what we shall call critical situations. Under the influence of similar conditions different psychic lives react about in the same way, and especially

after a long life spent together two persons can come very near to knowing each other. The mental life constitutes a vicious circle, and a time is apt to arrive when our intelligence is closed to all suggestions from without; we are then always the same, almost identically the same, and easily identified in our acts and thoughts. With oncoming age a stereotyped mental form is established, and the manner in which our mind retires within itself begets of itself a sort of petrification of the immediate surroundings in which one formerly lived, rather than of those in which he is living in his later years. Our means of intellectual communication become exhausted very quickly, and conversation often falls into ridiculous absurdities, betraying in most cases only a lessened mental power which remains unchanged and is extremely silly because of its frequent repetitions.

People often separate under the influence of strong emotions; the idea of parting and of absence makes them think of death and of sorrows; these thoughts are an endless source of melancholy. Who knows whether the beloved one will return, who knows whether or no he is going away for all time? Separation is often for a long time, if not forever, and the emotion is proportionate to the distance that separates those that love. It is necessary to take into consideration also the age and the mental and physical condition of the absent one and of the one remaining at home, in order to understand the mental processes of those that are separated. They may remain for months or even for years under the influence of that parting, and emotion is fed by the beliefs of the subject and the other influences of the environment in respect to ideation and all other suggestions. If the person is more impressionable, the emotional state is still more sensitive and still further disturbs the personality.

Such being the case, a fortuitous coincidence is very likely to occur in which the subject and the object of the hallucination experience this so-called *telæsthesia*. The unknown is always perceptible in the hypnotic state, and we are all like the sailors' wives that stand for hours upon the shore, searching the infinite, their eyes fixed upon the horizon, in the belief that they may be able to

discern the outlines of a ship. A flock of gulls is taken for the sails of a boat, as at other times we try to guess the meaning of that bluish haze floating upon the horizon. Thus a person has a telepathic hallucination every day,—thinks the absent one speaks, hears him, sees him, smells him, or is touched by him. Generally disillusion disconcerts us; the wind was whistling outside; the echo of his voice resounded in our thought as a memory; or a tactile sensation became vaguely localised in some part of the body under the impulse of a plasmic image. At times, in the proportion of 2 to 100, it happens that we hit it right; the news we had of the absent one, the knowledge of his surroundings, his precarious health, his psychic life, etc., had prepared us beforehand to have a mental hallucination corresponding to his own. Knowing his character, his psychic modality, his doubts, his desires, his fears, and his mental sufferings, we can very closely estimate his mode of life. Our subconsciousness, with its slow, imperceptible processes, had prepared the way for this state of mind, of which otherwise we know nothing, and we are surprised when a sensorial image spontaneously presents itself to our thought, or passes away quickly as a telepathic hallucination. Then we do not hunt for causes, nor for the springs of thought; we see only the coincidence, and a single one in a hundred suffices to create a legend, to warp judgments and memories, and to suggest in the ideation of the social environment of the subject the more or less credible probability of similar sensations and similar prognostications. And as death is the greatest sorrow than can come to us, we often see the absent one dying or ill, especially if the occupations and needs of life do not snatch us from such suggestions—which we classify subconsciously,—and if they do not make us forget the meaning of life, our affections, our desires, our mental suffering. The spontaneity of the fact seems surprising, indeed even miraculous, and we do not stop even for a moment to consider that we are here dealing with a slow ideation, thanks to that pre-established harmony and that psychic parallelism of which we have already spoken. I possess some conclusive evidence on this subject, and I have been able to observe personally in thirty-seven hallucinations,

as well as in the great majority of my cases, the progress of this slow, subconscious ideation. I cannot forbear to cite a personal experience. At the time of my father's death, two years ago, I had the very evening of his death the telepathic hallucination of his suffering simultaneously with Mme. V. On entering my home, Mme. V. called my attention to a peculiar odor in the room. "It is just like that at your home at B.," she said, "it smells like quince." In fact, in my country and in my home it was customary to put quinces into the bedroom and to keep them there during the entire autumn, perfuming the air with the fragrance of quinces. At this recollection I saw my father dying. The next day I received a telegram in which my mother informed me of my father's serious condition, begging me to come as quickly as possible. I was separated from my father by a three days' journey by rail. My father had in fact died toward morning, and during his last hours, all night long, he had constantly called for me. Between the moment of his death and our hallucinations there was according to my calculations a difference of seven hours. His last moments had been calm, and being a believer, he had shown a truly Christian resignation. He had had several syncope. And what are we to conclude from this fact? In accordance with the current reasoning no other conclusion is plausible than telepathy as a telæsthetic phenomenon, and the fact might have been cited as a credible hallucination. Would this hallucination have corresponded with any of the comatic conditions at the moment of death or to the phenomenon as a whole? A difficult problem, with new conditions which the experimenter must take into account; the manner of death is so variable and the death struggle may last from several weeks to a few moments. I recently had the opportunity of testing this experimentally in investigations which I undertook regarding the "ego" of those about to die, and which I am pursuing at present.¹ I took into ac-

¹ I take this opportunity of thanking Dr. Toulouse for his great kindness in placing at my disposal his model staff of the *Asile de Ville-Juif*. There I had the opportunity, not only to pursue on the study of psychiatry, but to observe and gather a whole mass of psychological evidence, which would have been difficult, if not impossible, to get elsewhere. I tender my profound gratitude from the depths of my heart.

count experimentally from the first the value of this psychic parallelism and then the difficulty of catching the true moment, which in the opinion of adepts in telepathy would be the cause of the hallucination. The dying man calls for his son, his mother, or his family when he feels perfectly well; and his psychic condition is deeply shaken when he approaches final dissolution, and when he nevertheless retains his clearness of mind, as for instance in the case of a tuberculous patient, and gives no perceptible sign of his emotive thoughts. One may say the same thing of the somatic conditions of the genuine deliriums with their peculiar panoramic vision. The problem, therefore, is altogether different, and one cannot scientifically establish by the aid of the calculus of probabilities any quasi-mathematical correspondences. My case of telepathy can in my opinion be explained in another way. I knew that my father was weary and ill; I knew his mental state very well, and I was accustomed to follow his thought from afar. As he was seventy-three years old and ailing, I had worried about him for a long time, and at the bottom of my heart I had been expecting from day to day a word from my mother announcing that his condition had become grave. Though he had rarely been sick in his life, he had been suffering for some months from the results of a cold. I had seen him a few months before; he was feeble and our separation at the time of my departure for Paris had deeply impressed me. He wept and realised that his vigor was departing. He told me that he had a feeling that he would never see me again. All these impressions moved me profoundly and I still feel the thrill of that emotion. From time to time the letters which he wrote me were melancholy, and I recognised in his touching words the language of a dying man. He wrote me customarily twice a week. For three weeks I had received no letters from him, and I had several times experienced a hallucination that he was ill. From time to time he suffered more especially and for some while he had remained in his room upon the orders of the doctors. Preoccupied by my work and my investigations I nevertheless did not forget my father, and in my odd moments I found myself thinking of him and his illness. All my memories of childhood were as it were polarised about the state of

his health. I had never experienced a death in the family that could touch me closely; the death of my sister when I was quite a child had left with me only some vague memories. The idea that my father was going to die disturbed me, and yet I kept regarding it more and more as a reality. Here I will add that it is necessary to take many precautions in observing an hallucination concerning the critical physical or moral crises of an individual. A sick man, seriously sick, is always thinking of his family, always lingering over his memories and his affections, and there is a great probability that a fleeting thought on our part might correspond to his constant mental condition. Take the case of a patient suffering with diabetes with its many crises, a gouty person, a victim of ataxia or of some mental malady which has baffled those about him and even the physician who prescribes his remedies! In such a case the probabilities of a coincidence become still more numerous and without regard to what coincidence is probable; the automatism of psychic parallelism explains all without making it necessary to call in telepathic forces.

The last letter from my father was, as I have said, sad; some days before his death I received from him a letter written to him by a little nephew. This circumstance had troubled me much. He wrote to me by the hand of another when he had been so fond of chatting with me by letter! I suspected that the final catastrophe was at hand. It came suddenly, at the moment when I was preoccupied by a paper that I was revising and which had for two or three days interrupted my telepathic absorption in the condition of my father. However, I had chatted frequently with Madame N. regarding my father, and several times I had expressed to her my fears; or rather, one day I had expressed my impatience at receiving no letter from my father; I had even had a vague hallucination of his soft blue eyes. The evening that he died, and perhaps at the very moment when he was yielding up his soul and calling upon me in words of tenderness, I had an hallucination of his condition. I saw him just as I had left him, with his usual expression and his motions, and he seemed much changed. One of his ardent desires expressed during his life was to have me near him at the

moment of his death, and as he died he expressed his regret at my absence. . . The spontaneity of the hallucination had surprised me a little, and the mysterious background of night always gives a chaotic nimbus to our thoughts, our griefs, and to our ideas, especially our sad ideas. Upon analysing myself, trying to fathom my thought I had discovered this slow ideation which I was able to identify amply. The mysterious is in the main only the foggy expression of a perfectly simple conception. I have had the opportunity of tracing out trains of ideation with documentary support in the great majority of cases, and the conviction has established itself within me that there was in none of them a case of telepathy, but only of peculiar subjective conditions.

In brief, our observations and our evidence lead us to conclude that telepathic hallucinations do not exist independently as well defined phenomena, and rest upon no established mental facts. They are not at all phenomena of *telæsthesia*, and they exist more frequently than is generally believed, but are based upon peculiar mental states. The number of credible cases is extremely small and very far from reaching the rank of any sort of biological fact. Nevertheless, the credible cases are not all due to chance; there are many among them, even the great majority of these credible cases, those that can be explained easily on the basis of a sort of "pre-established intellectual harmony," that is to say, can be explained psychologically.

We do not claim to have solved a problem so complex as that with which we are dealing; but it seems to us that there is some truth in our evidence and our arguments. Why inquire even whether telepathic hallucinations exist in a given proportion or seek out the supersensible causes and the explanation in phenomena that border upon the marvellous? Nothing is impossible in the domain of biology, and I am an adherent with all my heart of the noble ideas advocated by M. Richet in the page which we quoted from him at the beginning of this paper, but we think that before searching for the explanation of miraculous phenomena it is proper to try to fathom this other unknown realm, "our ego," which is no less extensive and at the same time extremely impor-

tant, our mental life, our cerebation with all its forms and its intellectual and somatic modalities. This realm of the unknown is more important than any other, and psychologists, spiritualists, telepathists, occultists, and even physiologists would but advance the problems which they study, if they would devote more attention to them. There are many enigmas proposed to us by this sphynx, and many mysteries which she hides! Does not the subconsciousness with its numerous combinations and its sensorial alimentation constitute the foundation of our being, our waking as well as our dormant thought? It is very fine to break through the beliefs of science, and to open new paths, and for my part I see no inconvenience in the existence of telæsthesia, for there are many other phenomena of a physical nature which may serve as an example. But it is necessary to prove it, and if we do not prove it we must not venture to hunt for comparisons among phenomena of a physical nature when we do not yet possess sufficient knowledge to know to what extent and in what order of ideas the psychical phenomena are comparable to them. We know at the most that there is a close relation between the two orders of ideas, but that is all. Before breaking through the cranial envelope of our brain and admitting that our thought flies in space in the form of a telepathic vibration and countenancing the belief that our thoughts can thus make their way to a distant goal, let us study incessantly this world of "ours," which is more important than any class of physical phenomena, and let us not become intoxicated with this new metaphysics which is characterised by its love for figures, for too great precision, and for mathematical calculations based upon unreliable data.

N. VASCHIDE.

PARIS, FRANCE.

SPIRIT OR GHOST.

COMMENTS UPON SPIRITISM AND SPIRITISTIC INTERPRETATIONS OF PSYCHICAL PHENOMENA.

SPIRIT originally means "breath," being derived from the Latin *spirare*, to breathe; and breath being the most obvious indication of life, the word "spirit" came to denote (like so many other words of the same significance, such as *animus*, *anima*, *πνεῦμα*, *ψύχη*, etc.) "the principle of life." When a man died, he ceased to breathe, and with his breath, life was gone; accordingly the breath was naturally assumed to be that mysterious something which is endowed with life, consciousness, and intelligence.

The idea of spirit, with the great masses of the people to-day, is still the same as it was in the days of savagery, and the philosophical conception of spirit has developed from the popular and primitive notion simply by eliminating the coarse and materialistic features of the belief in defining spirit as that which constitutes man's intelligence. Descartes says: "The essence of spirit is thought."

Since we are still influenced by the savage notion of spirit, and because, in spite of its errors and crudities, the savage notion contains a deep truth, being in fact based upon a superficial observation of events that form the bottom-rock of our psychological race-experience: it may be wise to consider the logic of primitive man. His notion of spirit is influenced by his dream-experiences. When he sleeps, the body is resting, but his imagination remains active, he dreams; and in his dreams he goes hunting or fishing, and meets his friends and foes in combat. His spirit accordingly

is, in his judgment (and who will deny that he is right!), made of the stuff that dreams are made of; and the most remarkable thing is that the dead too appear to him in dreams.

The *Iliad* contains a description of the shade of Patroclus visiting Achilles, which may be considered typical. In Pope's translation it reads as follows:

"Hush'd by the murmurs of the rolling deep,
Achilles sinks in the soft arms of sleep.
When, lo! the shade before his closing eyes
Of sad Patroclus rose. He saw him rise
In the same robe he living wore. He came
In stature, voice, and pleasing look the same.
The form familiar hover'd o'er his head,

'And sleeps Achilles (thus the phantom said),
Sleeps my Achilles, his Patroclus dead?
Living, I seem'd his dearest, tenderest care,
But now forgot, I wander in the air,
Let my pale corse the rites of burial know,
And give me entrance in the realms below.'

And is it thou? (he answers) To my sight
Once more return'st thou from the realms of night?
O more than brother! Think each office paid,
Whate'er can rest a discontented shade;
But grant one last embrace, unhappy boy!
Afford at least that melancholy joy.'

He said, and with his longing arms essay'd
In vain to grasp the visionary shade!
Like a thin smoke he sees the spirit fly,
And hears a feeble lamentable cry.
Confused he wakes; amazement breaks the bands
Of golden sleep, and starting from the sands,
Pensive he muses with uplifted hands:

'Tis true, 'tis certain; man, though dead, retains
Part of himself; the immortal mind remains;
The form subsists without the body's aid,
Ærial semblance, and an empty shade!
This night my friend, so late in battle lost
Stood at my side, a pensive, plaintive ghost:

Even now familiar, as in life, he came;
Alas! how different! yet how like the same!"

In dreams we experience the same sensations as in waking. Dreams may be more or less dim, more or less coherent, but the reality of our perception is the same, and the savage naturally infers that the dream-phantoms as well as ghosts are as real as the persons whom we meet in actual life.

Such upon the whole is the nature of spirits according to the common notions of almost all the nations on the face of the earth, at a certain period of their development.

Dreams in sleep are supplemented by dreams in a waking condition, i. e., by hallucination, be they caused pathologically by a diseased condition or by narcosis. The spirit of a man is thus assumed to have a shape which closely resembles his body. It moves about, yet the substance of which it consists is supposed to be imponderable like air or ether. It is not hindered by the laws of gravity; it can pass through closed doors, and no prison can hold it; it can hover in the air and can travel over immeasurable distances in a moment. Though invisible to the eye of mortal man, the spirit can reveal its presence whenever it chooses or conditions are favorable. It may appear in bodily presence to one and may speak to him, while others that stand by can see nothing but the impalpable air. An instance of this kind is represented in Shakespeare's *Macbeth* and in the queen's bedchamber scene of *Hamlet*.

It is by no means impossible or due to accidental coincidence when several persons see a ghost. Not only are men of the same belief and education and under the same influence of external conditions apt to interpret a strange sight or noise in the same way, but suggestion transfers the interpretation of one observer to others, and thus it would seem that the opening scenes in *Hamlet* are true to nature. The sentinels first see the ghost; young Hamlet is called, and being prepared for the occasion, he not only sees the apparition but speaks with it.

There is no need here of further entering into details, but we may incidentally mention that the several savage tribes have

worked out each one in its own way quite complicated systems of psychology, which are peculiarly elaborated in the ancient Egyptian religion.





The ancient Egyptians distinguished between *BA*, the consciousness-soul; *KA*, the double or dream-body; and *KHU*,¹ the spirit or intelligence.

During life the *BA* together with other spiritual factors inhabits the *KHA* or perishable body, but it is characteristic of the Egyptian religion that for the sake of the welfare of the *BA* the body must be preserved; hence the custom of mummifying the body (which is now called *SAHU* or mummy) and rendering the tomb an eternal abode, *PA T'ETTA*, i. e., the everlasting house.²




To us who have been trained to speak of man's body, soul, and spirit, the Egyptian conception of seven or eight souls seems queer; but we must bear in mind that the Egyptians are by no means isolated in their psychological views. The later Taoists of China, for instance, believe that man has three *hun*, souls, and seven *p'o*, spirits,³ and how many there are among us who even to-day think that soul and spirit are two different entities, and that the spirit is a kind of mediator between body and soul. As a matter of theory, there is very little difference between two souls and

¹ The transcriptions *Xu* and *Xa* are perhaps preferable.

² The hieroglyphic emblems of man's spiritual factors are as follows:

	<i>BA</i>		<i>KA</i>		<i>SAHU</i>		<i>KHA</i>
consciousness-soul		dream body		mummy		perishable body	

In addition there are:

	<i>AB</i>		<i>KHAIBIT</i>		<i>SEKHEM</i>
heart		shadow		vitality or strength.	

³ *Hun*, soul (No. 5244, p. 534 of Giles's and p. 269 of S. W. Williams's Chinese Dictionary). *P'o*, animal spirit (No. 9420, p. 924, Giles, and p. 711 Williams). It is stated that the *hun* corresponds to *yang*, the male or heaven principle; at death it goes up to heaven. The *p'o* corresponds to the *yin*, the female or earth principle, and at death goes down to the earth. As to the three *hun*, it is stated that after death one goes to heaven, one to the earth, and the third stays with the corpse. Again it is said that one represents the vegetative, one the animal, and the third the moral principle; the first and second die with the body, while the third is immortal. The seven spirits are the five senses and two more functions representing the action of the limbs. The latter explanation is mentioned by Williams, p. 711.

seven souls ; in either case it is a plurality ; and if we hypostatise faculties or powers such as intelligence or mind, the heart or tendency to emotions, the vital force, etc., we may be found to be not so very far away from either the Egyptians or the Chinese.

The several similarities, totemism, animism, etc., of the Egyptian world-conception to that of the American Indian do not prove that Egyptian civilisation has travelled in prehistoric times to the new world, but show what the American Indian would have become, if his intrinsic development had not been interfered with by the advent of the white man. The culture of ancient Egypt has just emerged from the prehistoric animism, and our own condition is just a few steps farther advanced. One of my missionary friends, a highly cultured man, is so delighted to find among the savage Indians all the elements of a belief in an immortal soul, the aspirations of moral ideals, and the trust in a happy hereafter, that he exclaims full of enthusiasm : " Surely Christianity need not wait long with the precious message for which these our noble aborigines seem more than ready ! "

Savages believe in the actuality of their dreams ; they think the spirit frees itself from the bondage of the body and roams about at pleasure. Dreaming, therefore, is a spiritual state, and information received in dreams is attributed either to good or to bad spiritual powers. Hence the sacredness of dreams which is still a noticeable feature of the New Testament.

Hallucinations, not less than dreams, were considered as spiritual ecstasies and were supposed to be caused by some supernatural presence either as a divine inspiration or through demoniacal possession.

Narcotic drugs and drinks were naturally regarded with religious awe ;¹ the Pythian priestess at Delphi inhaled the vapors of the fissure in the ground, and the medicine man of the Jepurina in South America² enters into a trance by taking narcotic snuff.

¹ See Wilhelm Bender, *Mythologie und Metaphysik. Die Entstehung der Weltanschauungen im griechischen Alterthum.* 1899.

² *Zum Animismus der südamerikanischen Indianer.* By Theodor Roth, page 5.

The worshippers of Dionysos indulged in wine, because intoxication leads to the spirit land.¹

Man's interest, however, does not center in anthropological nor in historical problems, but in the more important and living question whether or not the spirit of man is a reality; further, in case of an affirmative answer, what kind of reality spirit is, what it can accomplish, and whether or not and in what form it will live on after the destruction of the body. Having frequently discussed the positive aspect of the problem, we propose in the present article to deal with a special aspect, viz., the theory of ghosts, which conceives the manifestations of spirit to be produced by beings of a sublimated substance. We shall try to appreciate the arguments of those who believe in ghosts and state our reasons for begging to be excused from accepting their views.

There is an inborn desire in man whenever he sets out on a journey of any kind to reach at once by the most direct route the end and aim of his travels. Thus it is but natural that we have a tendency to jump at conclusions; and seeing how in the process of development we have been obliged to surrender one after another our cherished superstitions as to the nature and faculties of the spiritual part of man, there is a powerful faction among the scientists who say there is no soul, no spirit, no mind, but only brain functions; psychology will have to be reduced to physiology and the whole fabric of our *Geisteswissenschaften* (as Hegel called them) will find its final explanation in physics, as molar and molecular motions of mechanics, or as ether vibrations of electricity. But we are not prepared to follow the materialist because he overlooks the most obtrusive facts and builds his theory on a vague assumption.

We grant the truth that there is no reality outside of the dreamer that corresponds to his dream, but for all that we insist

¹ The Lord's Supper was celebrated with water in Africa and in some parts of the Roman empire where the people believed in total abstinence from strong drinks, but the belief in wine as spiritual food was so strongly impressed upon the minds of the people in Greece and Italy, that in the Roman church the practice of using water was rejected as heretical, and the custom of serving first a mixture of water and wine, and then pure wine, became established as orthodox.

upon the reality of the dream and the spiritual nature of the dreamer.

Our sensations are due to sense-impressions which awaken in our mind the memory-pictures of former sense-experiences, rousing a number of expectations and resulting in sense-images possessed of meaning. I glance out of the window and my eyes rest upon a tree. I do not see the retina picture in the eye, I see the tree. I am not conscious of the brain-structures that help to build up the image and make me see it as a tree; I have the result only: I perceive the tree outside; and thus the sensation becomes a perception. I see the tree with trunk and branches and leaves. I have a notion as to what to expect in case I should touch it, and I can verify my expectations by experiment. I see the tree at a distance which I can only approximately measure in figures, but of which I have a very definite conception. A cat, or a monkey, or a dog, can measure distances neither consciously nor in figures, but unconsciously, yet with great exactness, so as to adjust their jumps (or chickens their pecking) with great precision where even an insignificant misjudgment would make the whole movement end in failure. These mental images are actualities; they are the stuff that psychic life is made of; and dreams, if considered in themselves without reference to their objective validity, are in all essentials exactly the same as sensations; they may be now dimmer and vaguer, now brighter and more beautiful, but are always the same in kind. They are sensations.

No wonder that dreams are taken as realities by the uncritical savage who has not as yet learned to discriminate between sensations and visions. To him the dream-life is the higher life because it is not encumbered with the gross materiality of our normal waking states; it is more spiritual and nearer to the divine.

Schopenhauer, recognising the kinship between sensation and dreams, says that man's conception of the world belongs to the class of dreams; it is appearance. And this is true, but we would reverse the order and say that dreams belong to the class of sense-pictures, and are in fact combinations of memory-images stirred to

independent life. If the dreamer wakes, the dream vanishes, but so long as it lasts it is as actual as any other kind of sensation.

The immortality of the soul is never doubted by a genuine savage. His habits of warfare are barbarous, but his adhesion to morality is in a certain way scrupulously strict, for his regard for the rights of everything spiritual is very intense. The savage does not doubt the existence of ghosts, because he knows them from his own experience; he sees them in his dreams, he talks to them; he consults them or argues with them; he goes out hunting with them or fights his battles over with his slain enemies.

It is not until the dream ceases to be recognised as a reality that the existence of ghosts can at all be doubted, and then stories originate which explain the reason why the dead do not return, but visit us only in dreams. Such is, for instance, the Orpheus legend of ancient Greece, which exists in a similar form among savages also, instances of which among the North American Indians are told by Mr. Hudson of the Field Columbian Museum.

The story of the Greek as well as the Indian Orpheus has apparently originated from the natural longing to have definite evidence concerning life after death and an explanation why the souls of the dead, though they continue to live, cease to remain in direct communication with the survivors.

The wonder of man's psychical nature is his consciousness and the normal functions of his mind. Man is a sentient being. The impressions which the surrounding world makes upon him are pictured in feelings, in the touch of resistance, in taste and odor, in sound and sight, and in addition, in the wants, yearnings, longings, as well as the efforts of doing and daring. The material world around us appears as a sense-picture, and from it by mental processes generalisations are abstracted which furnish the material for ideas and ideals, the building stones of man's spiritual life.

The reality of the bottom rock of our psychical life is very dear to us, for upon it rests the whole superstructure of our spiritual life; and thus it is natural that man longs for a proof of the existence of spirit. Now, the existence of spirit is a fact, and the spirit of man endures in the survivors after his death according to the

impressions he has made upon their souls. The impressions are recorded and remembered. They accumulate and form the most valuable inheritance of the race, for they are the materials out of which the souls of the growing generation are fashioned. Thus the spirits of the departed remain living presences with the survivors; they continue to influence them in their actions and aspirations and become most potent factors in the budding life of the future. In fact, the present generation inherits the soul-life of the past and bequeathes it, enriched through new experiences, new inventions, new discoveries, new aims, and higher ideals, to the generations to come. The souls of the fathers enter into the fabric of the souls of the children, not only by the law of bodily heredity, but also by impressing them with their modes of thought and examples of noble deeds. Thus there is a deep truth in the savage's belief in ghosts, and even if there are no ghosts in the savage's crude conception of them, there is spirit, and the law of the spiritual life of mankind allows spiritual influences to persist. Spirit dies not with the body, and the preservation of spirit makes evolution possible.

The savage, however, does not merely believe in the reality of spirit; he believes in ghosts, for he is as yet unable to discriminate between the two.

By *spirit* we understand the activity of this sense-woven world of man's immediate experience without reference to bodily conditions or a material substratum, but by *ghost* we understand the dream-figure of any being assumed to be an objective reality without the mind of the dreamer. Spirit, accordingly, is an unequivocal reality, but the existence of ghosts, aside from their being actual presences in the dreaming mind, is an assumption. It is not a fact of experience, but an hypothesis which needs corroboration.

Ghosts are at a discount at present because the belief in ghosts has been shaken considerably, but that is no reason why we should not use the word in its exact meaning. Belief in ghosts is now commonly called spiritism, and ghosts are spoken of as spirits, which is a less offensive name.

We insist that the spirituality of the world remains the same

whether or not ghosts exist. Spirit is and remains the most significant reality, and the realm of spirit, so far as science and philosophy have insight into it, may boldly be said to grow naturally from the world of material reality, which somehow contains in it the potentiality of psychic life and is dominated all through by those external norms of life formation which can be formulated as laws of nature. Should we be able to prove the existence of ghosts, it would not add to the worth of our spiritual treasures, which remain what they are, the quintessence of our existence.

There is a type of people who believe in the beauty, the salutariness, and perhaps even the truth, of the mysterious, the miraculous, the inexplicable. I will characterise them in their own words. An acquaintance of mine, an author of standing, and a man whom in practical life no one would perhaps deny common sense, writes: "Blessed is the visionary man in these days. He is the only sane man. The selfish materialist is a lunatic."

Plenty of similar instances can be found in literature, down to the present day. One instance will suffice: The Countess Potocka refers to the story of an astrologer's having greeted Poniatowski's infant child (later the unfortunate King of Poland, Stanislaus Augustus) as King of Poland. Stanislaus Augustus himself never mentioned the story, but, as the Countess says, "all his contemporaries remembered it, and told it *each after his own fashion*." She adds:

"How enviable is the superiority of character which allows us, without fear of ridicule, to admit freely that there are things one cannot explain, especially as it is impossible to deny them!

"Oh, for the good old days, when people believed in everything!

"First, they believed in Providence, and that simplifies many things.

"Faith was placed in miracles, disinterested love was believed in, devotion in friendship, and even gratitude. . . .

"They believed in philters, spells, presentiments, fortune-tellers, astrologers, ghosts! Those beliefs produced poets, visionaries, religious fanatics, heroes, and madmen!

"Now, the strongly equipped brains, the profound and positive minds, with which the age abounds, refuse to believe in anything, or believe in nothing but bulls and bears!"

It is characteristic of believers in occultism that they exaggerate the contrast between the visionary and the materialist, as if there were no middle ground; and science, which is farthest of all from denying the actuality of life, soul, spirit, etc., is generally characterised as the crudest kind of materialism.

People of this type who are endowed with a "will to believe" in miracles must obviously be unreliable as witnesses, and we know that most of the ghost stories and other occult phenomena are told by exactly such people.

Prophecy, in the sense of foretelling events, is not only possible, but actual; and it is done by the methods of a scientific determination of causes. Thus eclipses are foretold with an incredible precision and unflinching certainty and within the sphere of social, mercantile, financial, and political life we can roughly point out important changes that are preparing themselves in our immediate environs. The prophets of the Old Testament were not soothsayers but preachers; they were not diviners who foretold coming events, for in fact wherever they attempted to do so they failed utterly;¹ they were voices crying in the wilderness, warning the people of coming dangers, "storm-petrels of the world's history" (Cornill, *Prophets of Israel*, p. 35).

¹ Many random prophecies are uttered annually, and even daily, but very few of them are expressions of a truly prophetic heart. When a youth I wrote down in my diary a poetic vision as to the future of Germany, speaking of the terrors of war, the sacrifice of many lives, and the triumph of victory, culminating in the unification of the fatherland and the restoration of the imperial power. Everything was fulfilled literally in 1870-1871!

Prophecies may be genuine and yet need not be fulfilled. They may be sentiments of an actual and imminent danger, which, however, when recognised, is averted in time. The book of Jonah is a poetical illustration of this kind of prophecy, genuine yet not fulfilled.

I do not hesitate to classify Rudyard Kipling's *Islanders* among the prophetic literature of modern times. It comes from a troubled and anxious heart and wells up not with hate but with indignation. We must bear in mind that the man who speaks of the "witless learning," "the boasting," "the pride by insolence chastened, insolence purged by sloth" of "the arid, aloof, incurious, unthinking, unthanking, gelt," etc., is not a Fenian, not a Boer, not a Frenchman, but an English Imperialist, the author of *The Seven Seas*, and a zealous supporter of the idea of Greater Britain. Whether right or wrong, he is honest, and it is fear for the welfare of his country that makes him speak. Will he remain a voice crying in the wilderness or will he become the Jonah of England?

The ability in man of fore-determining the course of events is remarkable, indeed, but as we understand how it becomes possible by tracing causes to their effects, we fail to wonder at it, yet are struck with awe when confronted with fortune-telling in the distorted forms of abnormal cases, such as are furnished by romancers, gypsies, mediums, soothsayers, dreamers, or somnambulists. It is another instance of the truth that those who are incapable of understanding the significance of spirit are given to a belief in ghosts. Unable to appreciate the normal soul-life, they are puzzled by the marvel of its wonderful possibilities as they present themselves in abnormal phenomena.

The problem of spirit *versus* ghosts is of great practical importance. If occult phenomena are true, if by means of divination, crystal-seeing, second sight, clairvoyance, etc., truth could be discovered, it would be a gross neglect of duty if these methods were not introduced in court proceedings, in warfare, in the verification of historical statements, or for the support of documentary evidence, for attesting wills, for solving the mystery of crimes committed in secret, curing diseases by exorcism, etc., etc. But no sensible man will think of applying occultism to practical and public life, and the reason is obvious: experience is opposed to it, and to employ such methods will generally be deemed a waste of time, energy, and money.

The objection has been raised that we have neglected to develop the occult qualities of man, that we do not yet fully understand their importance and are therefore not able to make effectual use of them.

In answer to this, we must point out that occultism, magic, exorcism, etc., played an important part in the public life of ancient Egypt, Assyria,¹ China, and other countries, but that man-

¹ At a certain stage of civilisation the will of the deity is ascertained through prayer, sacrifice, and by sundry modes of foretelling the future. The Greeks had their diviners who inspected the intestines of the slaughtered sacrifices, the Romans their *haruspices* who watched the flight of birds. The Hebrews consulted Yahveh through the Urim and Thumim, etc. An interesting insight into the significance of ascertaining the will of the deity and foretelling the future in the politics of Assyria is afforded by a perusal of the Assyrian Prayers to the Sun-god,

kind has gradually abandoned them as unprofitable. Phenomena of demoniacal¹ possession disappear as medical science advances. Apparitions and other occult phenomena grow less important with the spread of education; and miracles decrease in the measure that man learns to control the powers of nature by a scientific comprehension of facts. In the days of savage life, spells, prophecies, incantations, are not only believed in, but considered an important element in determining the most important actions, political, religious, and private. Accordingly, mankind did try occultism and found it wanting. Nevertheless, the question is of paramount importance and ought not to be laid aside simply because the *Zeitgeist* is opposed to occultism.

Under these circumstances, we must recognise the value of the efforts of the Society for Psychical Research. They have with praiseworthy zeal collected and collated a vast amount of material in their several publications, among which the *Phantasms of the Living* form a stupendous work. It is supplemented by the proceedings of the S. P. R., published monthly in stately volumes.² While

made on official occasions and recorded in cuneiform documents. (See *Assyrische Gebete an den Sonnengott*, by Dr. F. A. Knudtson, Leipsic, Pfeifer, 1893.)

¹ An interesting book has appeared of late, entitled *Demon Possession and Allied Themes*, by John L. Nevius, D. D., a missionary to China. Edited by Henry W. Rankin. Second edition. F. H. Revell Co. 1896. Pp., 520. The author enumerates a number of cases of possession which are very similar in their character throughout all countries; and the reviewer of the book says: "Spiritism is a growth indigenous to many countries, a plausible interpretation of phenomena which occur spontaneously among all races and not merely a mass of imposture based upon the 'Rochester knockings' and peculiar to the last half of the nineteenth century." No doubt, spiritism is characteristic of a certain phase in the development of mankind, and so is belief in demoniacal possession; but the reviewer strains his point when he sees in such a consensus an argument for the reality of his spiritualistic theory.

² Among the communications from the dead, the *Letters from Julia, or, Light from the Borderland*, edited by W. T. Stead (London: Grant Richards, 1897, pp. 188) is perhaps the most typical and characteristic. F. W. H. Myers, one of the most prominent members of the S. P. R., whose honesty and zeal can be as little suspected as those of Mr. W. T. Stead, makes the following comment on literature of this class: "The contents of almost all these automatic utterances—through Stainton, Moses, Mrs. Piper, etc., and also of almost all the best romances on such subjects—Mrs. Oliphant's stories, Balzac's *Séraphita*, etc.,—appear to me to be more or less—not necessarily directly *derived* from Swedenborg, but—anal-

we gladly acknowledge the zeal, the diligence, the honesty, the seriousness, the systematic mode of procedure, and the unquestionable devotion to the cause, in the leaders of the S. P. R., we cannot help expressing wonder at the lack of success which they have met. They frequently complain that their work is slighted by the scientific world. Further, they are sensitive to criticism; they sometimes resent, not without bitterness, any suggestion that the wonderful phenomena enumerated by them would be most easily explained on the theory of fraud, or by self-illusion; they demand that critics should investigate their evidence, and either accept or overthrow it, but they must not doubt the statements of fact.

We can understand how this kind of zealous investigators of the soul feel disappointed at not having made a deeper impression upon their contemporaries. They have sacrificed much labor, and much money; they have shown great enthusiasm for a cause which is very near to their heart; and it is but natural that they look down upon any neglect to accept their statements as signs of the times indicative of a lack of spirituality and of an interest in the highest problems of mankind. The case, however, is, in our opinion, slightly different from the view they take. We take for granted that all the reports are made by people that are not only honest, but also critical and reliable, nevertheless, they are not infallible. If they were, we would be obliged to accept their statements without further question.

The world is not obliged to contradict and refute the man who honestly believes in the reality of certain incredible facts. Unless facts force themselves upon man's experience, he is perfectly justified in leaving them alone; and thus the neglect about which the members of the S. P. R. so frequently complain is simply due to the truth, that these occult phenomena do not play the significant part which they ought to play on the supposition that they are true and reliable.

ogons to Swedenborg. It is, of course, possible that Swedenborg's utterances convey much of inspired truth, and that spirit-communicators and romancers alike give much the same messages simply because the spirits *know* them to be true, and the romancers *guess* them to be true."

We have touched upon the question of the nature of ghosts, as well as the rise and cause of the belief; we have further discovered the truth that lies in the actual facts from which the belief originates; we have seen how man naturally believed in ghosts and understand that he will continue to cling to this belief even when he has learned to discriminate between waking conditions and dreams. The doctrine of the divinity of dreams is given up only with great reluctance, but the belief in ghosts will be even more tenacious because those who have not yet grasped the significance of the reality of spirit, still remain in need of a belief in ghosts; otherwise they would find no purpose in life, and they must break down under the burden of a meaningless existence. Unless a savage rises to the higher state of a comprehension of the spiritual, it will be better for him to retain his ghost-religion and belief in a ghost immortality; otherwise he would soon lose those gentle features for which the primitive races, in spite of their rudeness and occasional cruelty, are noted and sink to the level of the brute. Accordingly, when we here speak of the belief in ghosts as an error, we wish to point out that there is a truth in it which it is desirable to preserve in the conception of a higher and better and more correct standpoint. On the other hand, however, the recognition of a truth in an error does not justify our abiding by it. The truer view must after all be the better view.

The belief in ghosts, in the ghost-nature of the soul, and in ghost immortality, has a firm hold upon mankind. It is still dear to man because he has grown accustomed to it; it is deeply connected with most important ideals, moral as well as religious; it inspires him with awe, appeals to his imagination, and comforts him in the tribulations of life,—no wonder that it is still a powerful factor even in the life of to-day, and that attempts at proving the existence of ghosts are being made again and again with more or less applause of great masses of mankind, but practically without any success.

If ghosts existed, their actuality ought to be as palpable and undubitable to us as it is to the savage; the manifestation of their existence ought to be so common that we might as well deny the

reality of steam-power or other modern inventions. The fact is that there are always innumerable evidences to those who believe, but the evidences are of a purely personal, or rather individual, nature, which cease to be convincing to outsiders. They are told and repeated, and listened to with awe; they impress many people, but are incapable of finding general credence.

And why? Because they are not like genuine scientific discoveries which are based upon facts that can be corroborated by experiment. No one doubts the reality of the Röntgen rays in spite of their strange nature and inexplicable behavior, because Röntgen describes his experiments in such a way that every electrician can now verify them and test the truth of his statements. The evidences of spiritism have never as yet reached the exactness of scientific demonstrations, in spite of the most respectable attempts made by the Society for Psychical Research and other associations, as well as private scholars who have worked in kindred directions.

The method of all these psychologists who pursue their studies with the purpose of "discovering the soul" is, as a rule, twisted by seeking marvels in the abnormal, and the marvel in the abnormal is practically the same as in the normal. Double consciousness is a strange phenomenon, but the marvel of it is that there is consciousness; that consciousness can be split up into two alternating states is only a corollary to the marvel of consciousness as a manifold unity. Under certain diseased conditions the normal unity can be weakened and another secondary unity is formed. There is no special mystery in the existence of subliminal soul-life, which is exactly as mysterious as the states of our every-day consciousness with its various degrees of intensity. We wink unconsciously, and yet the act is not entirely bare of feeling; it is a feeling that has not passed over the threshold of clear thought, and is therefore called subliminal, i. e., below the threshold.

Studies of abnormal psychology have so far only verified the important truth of our spiritual nature, to which, it may be granted, we have grown obtuse by habitude.

The proofs of the existence of ghosts (or, as the phrase runs

now, "intelligences") consist in stories of marvellous occurrences which if true are apt to suggest the idea of the interference of mysterious agencies; and if the facts are either established or believed or assumed to be true the theory of the traditional belief in spiritual presences of some kind suggests itself as the simplest interpretation. We have dream visions of truth-dreaming; we have hallucinations boding danger, which prove to be good prophets; we have second sight so called, visions of events that happen at a distance and prove to be true; all these stories (even if they sometimes are verifiable on good authority) do not prove the existence of ghosts but the spirituality of the dream. Yet there is lingering with us the notion that a spirit is the dream-body, and even the faintest veracity of a dream will go far toward proving the reality of the dream-body, the ghost.

Now, I do not mean to deny the possibility, nay, the actuality, of spiritual influences, of warnings given in the subliminal soul-life, of prophecies of future events, of flash-light inspirations which come to the poet, the artist, the genius, the leader of mankind to higher planes of life. The man who is full of his subject may find in the hush of night when all his worries and cares have quieted down in sleep, the solution of a problem that he cannot find in broad daylight, during the bustle of the humdrum activity of the world, and then it flashes upon him like a revelation in a dream. The conditions of the solution are all present in his mind; he knows what he longs for, but he lacks clearness; now it comes to him, and he sees it either in direct realisation or in the shape of an allegory.

The prophet's visions are not artificial products of a poetic genius, but the natural conditions of a tortured soul. They may be true, noble, inspiring, elevating, or trite, coarse, and mediocre. Every insane asylum will furnish instances of the latter, while the former have been placed as lighted candles upon the candlesticks of the bibles of the world.

In addition to the subjects that concern mankind as a whole, there are occurrences that are of importance to individuals in every-day life. There are two brothers who love each other; one

is thoughtful, the other careless. There is a bond of sympathy between them, and in a moment when the one in a kind of waking dream-vision becomes aware of the possible results to which a certain rashness in his brother's character must lead him, he actually sees him dying, or suffering, or calling for help. Yet the warning may be too late; it may come almost simultaneously with the accident which may prove fatal to him. If it happens to be true, it will be remembered and recorded; if not, it will be forgotten.

Such occurrences, if they happen, need neither be untrue nor miraculous occurrences, but may be the results of conditions which, if everything were known, would be recognised as natural necessities. The trouble is that the men or women who experience anything of that kind are rarely fully acquainted with themselves. They know themselves only in those factors which rise to the surface of their consciousness and are unacquainted with the unconscious conditions (the subliminal self) from which the conscious conditions emerge with an apparently miraculous suddenness as phantoms out of the realm of nothingness.

Somewhere I read the story of a rancher who had bought a ranch in New Mexico at a bargain and moved to his new property with his wife and children. He had not long been in possession when one night his wife grew restless and insisted on leaving the ranch. She could give no reason, except that she was afraid to stay on the premises any longer. She fell asleep, only to wake with a scream, and thus frightened her husband into leaving the ranch, and—so runs the story—the next night the Indians came, ransacked the ranch and burned the house. The whole family would have been killed had they not moved away in time to save their lives.

Stories of this kind are easily explained. The rancher who sold out, we are told, did so because he had given offence to the Indians and was afraid to remain. His successor gladly bought the property, but he felt instinctively that there was a reason for selling it at such a sacrifice. His wife may have seen the footprints of Indian feet or the feathers of their head-dresses as they prowled about the ranch, but in the bustle of the day she did not attribute

any importance to them; in the hush of night, however, these subliminal experiences come to the front and take a definite shape in dreams. Happy is he who is not obtuse to subliminal impressions. If they are heeded at the right time, they may prove providential.

Man's mind, when in possession of sufficient knowledge, can not only know the future through a due consideration of the determining causes, but can also reach out to inaccessible distances and penetrate into the hidden secrets of invisible processes. Kirchhoff and Bunsen analysed the chemical ingredients of the sun, and astronomers can definitely tell us whether a star is moving toward us or away from us. Further, a keen insight into the nature of our fellows teaches us to read the inmost thoughts of our friends as well as our enemies and to judge them aright, even though they may conceal their intentions from us. Every sense-perception is a telepathic function, for the tree which is seen may stand far away, and yet in spite of its distance, its existence, the place where it is situated, and many other details are known at a glance. Yet mind is more wonderful still: it renders possible a comprehension of the things sensed and thus allows the thinking person both to adapt his conduct to conditions and the conditions to his wants.

Such are the obvious facts of daily life. Our sensations are surprising, our mentality is wonderful, our normal soul-life is a miracle. Yet the miracle is nothing unnatural, or supernatural, or inexplicable. It is in accord with all other facts of life. It is no more wonderful than that the image of a tree on the shore of a lake is reflected in the mirror of the smooth water. The miracle is produced according to the laws of nature, and the wonder in the domain of spirit is that such simple causes can produce such grand effects.

We cannot enter here into the psychological problem as to the nature and the origin of the mind, which we have treated elsewhere: we only repeat that telepathy (but in the literal sense of the word) is a typical feature of the soul. The mind reaches out to the distant and penetrates into the most secret recesses of being; yet it is all according to cause and effect and there is no telepathy without taking note of and properly interpreting the signs that con-

vey the desired information. Telegraphy may be wireless but not without any medium of transmission. In the latter sense telepathy is impossible because unthinkable.

Those who hanker after the miraculous are easily duped by phenomena that are abnormal. They then see the miraculous in the distorted shape of the abnormal and think that the nature of the soul is as abnormal as they see it in their distorted vision. Goethe tells us in a humorous poem how the mind indeed can reach out to distant places, but how natural and simple is his explanation of telepathy!¹

Telepathy is a fact of life: yet there is no telepathy except it be a reading and comprehending of traces which give a clue to the events that produced them.

Man's consciousness is due to concentration of his sentiency upon a purpose, a plan of action, an aim. The end to be attained is kept clearly in view and the means to the end are only noted if they need special attention. Habitual motions are automatically performed; and thus it happens that we unconsciously walk, run, jump, and balance ourselves when standing. Habitual motions have sunk below the threshold of consciousness, they are subliminal.

Not only actions, but sense-impressions also, can be subliminal, and many of them are. When we look at the clock, the whole dial is impressed upon our retina, but we concentrate our attention upon the hour of the day indicated by its hands. We do not mind its sundry details and would be unable to state whether or not, for instance, the figures on the dial were Roman or Arabic. Few people are able to draw a correct picture of their own watch unless they take it out and note the several points.

While subliminal sense-impressions can, under ordinary circumstances, not easily become conscious, they have been made upon the retina and have been registered in the subconscious treasury of our mind. They will occasionally reappear with unfailing exactness and correctness in a dream and may become the deter-

¹ See Goethe's poem *Wirkung in die Ferne*.

mining factors in such warnings of which the story of the New Mexican rancher is an instance.

Abnormal conditions are impressive while normal soul-life is too common to find due consideration.

We know how injurious the belief in trance revelations sometimes is. The confidence of the pious in divine assistance frequently leads them to perdition. Witness the sorry defeat of the Indians at Bended Knee when they relied on the promise of their medicine-men that they should be invulnerable. But again there are instances in which apparent miracles are worked, and the implicit belief in the divinity of prophetic utterances or commands is an important factor in their realisation.

We cannot doubt that if a man withdraws from the bustle of his daily occupations and hushes the restless clamor of his wants and worries, the still small voices of his subliminal soul-life, which cannot gain a due consideration under ordinary conditions, will make themselves heard and the result will upon the whole be salutary. The late Mr. Cushing who lived among the Zuni as a Zuni and was admitted to one of their secret societies, working his way up to the highest degree, translated at my request the *U'pu-na kya Hai'tosh-nan-e* or "Commandment of Retiring," which in a solemn address the father gives to his son. As it characterises the seriousness of truly religious devotion of their trance exercises and has not as yet been published, we quote Mr. Cushing's communication which reads as follows :

"My Child,—

Be thou stilled and keep silence
Throughout all days appointed,—
That the silent Supreme Ones,—
Who speak only in silence
As men think when speechless,—
May be heard in thy stillness
And felt in thy thinking," etc

"My Child,—

"Thou shalt fast enduringly, and labor in sacred spirit undividedly as do the silent surpassing Ones, keeping vigil unwearyingly as do the stars, that thou stay thy heart from all longing save to gain their knowledge on their ways and see as

they and the stars see, thinking not of sleep, nor of food and garments, neither of men and their speakings nor of women and their pleasures, nay, nor even of thy younger sister, taking no thought of what thou wilt do withal or say or want another day, nay, not even of thy corn, whether it be growing! For, thus only mayest thou, if so be, hear the silent surpassing ones and learn their knowledge and their way, and see as they and the stars see, 'many things as men see one thing,' " etc.

While I do not deny, or rather *because* I know that for certain reasons we cannot deny, that there is an underlying reason for apparently marvellous instances of a keen penetration into the hidden concatenation of events, I feel urged to declare that so far no fact of unequivocal reliability has come to my knowledge which will prove that disembodied ghosts walk about as objective realities, nor that they enter into communion with those that live in the flesh. The spirit of a great man survives in his deeds, his words, his ideas, and they are recorded in our memory to remain with us as spirit of our spirit.¹

Though my conception of spirit would make ghosts as objective realities impossible, I have not neglected to study the evidences that speak in favor of their existence, and the result has so far been negative, while I can detect flaws in most of the ghost stories which I have on the authority even of unequivocally honest and acute observers.

More than a century ago Kant investigated the problem of ghosts, and he came to the conclusion which he published in 1766 in his *Dreams of a Visionary Illustrated by the Dreams of Metaphysics*.² Kant's treatise is disappointing inasmuch as he gives no details of his investigation, but states the *résumé* only, not without a grim humor and, as he confesses, "with a certain humiliation that he

¹ In the Gospel according to St. John "spirit" is defined by Jesus (vii. 63) as "the words that I speak unto you;" and later on (viii. 25) in reply to the question "who are you?" he answers τὴν ἀρχὴν ὅτι καὶ λαλῶ ὑμῖν, i. e., "First [I am] what I speak to you." The translation of King James's version obliterates the meaning by adding "the same."

² The book has been translated by Emanuel F. Goerwitz with an introduction and notes by Frank Sewall, the well-known Swedenborgian writer (London: Swan Sonnenschein & Co; New York: The Macmillan Co., 1900), under the title *Dreams of a Spirit-Seer*.

has been naïve enough to trace the truth of some of the stories of the kind mentioned. He found—as usual where it is not our business to search—he found nothing.”

Swedenborg's revelations are by far superior to anything more modern that goes under the name of spiritual manifestations or mediumistic materialisations, because Swedenborg is backed by religious fervor, a poetic imagination, and a certain philosophical grasp, while the productions of the average medium are commonplace and trivial, so as to provoke the criticism of the unbeliever who says that if the spirits of the deceased can offer nothing better it is a sure sign that they have undergone in the beyond a serious degeneration. The most remarkable instance of modern inquiries into the possibility of communication with intelligences beyond the bourne is the case of Mrs. Piper, conducted by no less an authority than J. H. Hyslop, Ph. D., Professor of Logic and Ethics in Columbia University, New York. The case is remarkable, not on account of the results, but because a man of Professor Hyslop's position and name feels satisfied as to the genuineness of the communications with his relatives that have passed to the spirit-land. He says:

“I have been driven to the favorable consideration of the spiritistic hypothesis and instead of evading it as long as possible throughout my report and resorting in a pedantic way to circumlocutions for the purpose of preserving the impression of cautiousness which I tried to maintain in forming my convictions, I have decided to treat the sittings in general from the point of view which I finally reached.

“Instead, therefore, of seeking to point out what incidents might be explained on the hypothesis of fishing, what on the hypothesis of guessing, what on the hypothesis of telepathy, etc., I have tried to take the reader behind the scenes, as it were, and to show what relations the different incidents may suggest with the habits and experiences of the supposed real communicators.

“I offer, therefore, my analysis, not as proof, but as legitimate interpretation of the record and the results of psychical research generally. I am willing even to be generous to critics, and to admit, for the sake of argument, that the spiritistic theory cannot be proved in the sense that some appear to demand of a demonstration.”

Even in this cautious form Professor Hyslop's statement seems to us sanguine. When we contemplate the delicacy of the human mind and man's ability to read instinctively the insignificant signs

of important events, we can no longer be astonished at the remarkable phenomena of abnormal conditions, for they only repeat in a distorted and rather disorderly manner what happens daily under normal conditions.

Professor Hyslop is perhaps more critical than any other observer of the Society for Psychical Research. He is an enthusiast who believes he has bridged the gap between the two worlds, and yet how meager are the results! Whatever results there are, their value is set off by the fact that Mrs. Piper's subconscious self needed a whole *séance* for reconnoitering the field of her experiments. We say *her* experiments, for while the professor thought *he* was the experimenter, he might have considered the possibility, and I suppose he did, that he in turn was the subject of the experiments of Mrs. Piper's trance personalities.

Professor Hyslop says of his *Observations*:

"In summarising the facts in the record, I shall group them, as far as this is possible, according to their subjects, treating together those that occur in different sittings but pertain to the same incident. In this manner we shall better be able to comprehend the collective force of the evidence as it is represented in complex wholes."

In grouping the facts according to their subjects, Professor Hyslop adds to them part of his own mind, and thus he no longer gives the facts pure and simple, but as digested by his comprehension of them. Happily he is a logician, and though he apparently felt inclined to omit the first *séance* as irrelevant in results, he publishes the minutes of it. He says:

"The first sitting, however, I shall treat rather by itself, as it is evidentially unimportant, and such value as it obtains comes chiefly from the light that later incidents throw upon it."

Professor Hyslop characterises the first *séance* as preliminary to the others. Believing in spirits and regarding the medium as a kind of telephone through which the deceased find an opportunity to speak, he finds the first sitting intelligible as a "dramatic play in the trying conditions for selecting the proper communicators...." It is an "apparent groping about of inexperienced communicators to make their presence known."

We quote Professor Hyslop's statement in full, for it throws light upon all the sittings which he had with Mrs. Piper:

"The chief interest of the first sitting, then, from the point of view above indicated, is the dramatic feature representing the process of ascertaining either my identity or the proper communicator. After the usual preliminaries at the beginning of the trance, such as greetings, arrangements for future sittings, etc., the function of amanuensis was turned over to G. P. in this instance, and Dr. Hodgson was sent out of the room just as a lady claimed to be present to communicate with me. Several pages of writing follow, in connection with this attempt to "reach" me, that are full of confusion so far as evidential matter is concerned, though intelligible as dramatic play in the trying conditions for selecting the proper communicators. In the midst of this confusion the names Margaret, Lillie, and Henry [?] were given, evidently by the lady who claimed to 'belong' to me as my mother (cf. p. 306).¹ Careful investigation shows that there is no Henry, near or remote, among the direct family connections. There is an interesting piece of contingency in the first two names, as I had a sister by the name of Margaret, the oldest in the family, who died when I was two years old, and another, my twin sister, by the name of Sarah Luella (cf. p. 331), at which Lillie might be an attempt. But I cannot be sure of any relevance in either of them, and the contingency deserves to be mentioned only as one of those things that so easily mislead the ordinary inquirer into the recesses of this subject. Whatever the theory to account for these phenomena, it is evident that these names belong to the connections of the lady claiming to be related to me. Assuming from the spiritistic point of view that a number of persons were trying to 'reach' me by shouting all at once into the telephone, so to speak, we might interpret these names as significant, excepting the name 'Henry.'

"The communications that follow show confusion, though capable of being disentangled by legitimate interpretation. The name 'Alice' comes closely upon 'Henry,' but is immediately corrected to 'Annie,' which is the diminutive name of a deceased sister, though this relationship is not here asserted by the communicator. In fact, it is not possible to assume with any assurance who the communicator might be, though it is probably the person who claims to be my mother. On this assumption she is trying to give the names of the members of the family with her, and the correction of the mistake of 'Alice' for 'Annie' is possibly made by the latter herself. Immediately following this I am asked if I remember anything about my brother. I ask who he is, meaning that I want his name, and the reply is: 'I say, brother. I am your . . . I know I am and . . .' which might be either from this brother or the person claiming to be my mother. I then asked: 'When did you pass out?' and got the answer: 'Only a long time ago.' This would be

¹ The page numbers in parentheses refer to Professor Hyslop's report in the *Proceedings of the S. P. R.*, Vol. XIV., Oct., 1901.

true of both my brother and mother, while the 'only' might be interpreted as a word from the message 'only a short time ago' of someone else, possibly my father. This is apparent from the answer to my next question, which was: 'Any other member of the family?' The reply was: 'Yes, two. I have seen Annie and mother and Charles and Henry.' Whoever the communicator was in the previous equivocal messages, it is apparent, on the surface at least of this last answer, that it was neither my brother nor my mother. Hence seeing in the sentence thus naming the members of the family that the communicator was not my brother Charles, and, as I knew there was no Henry in the family, I tried the dodge of pretending to believe that it was Charles Henry, and asked if it was. The answer: 'No, Charles,' was very pertinent and correct, as it excluded the Henry from consideration. Thinking that I was not dealing with my brother, but with my father, I asked the question: 'Did he [Charles] pass out before you?' and the answer: 'No, I did not hear, did you say before,' was followed by, 'Yes, *he did*, some time before.' The latter was correct, assuming that it was my father. The allusions that follow to the trouble with the head and heart would apply, as far as they go, to my father, and the passage comes to an end with the odd statement: 'I say, give me my hat.' I learned later that this expression was characteristic of my father (cf. p. 313). I here presented an accordion for the hand to touch (for reasons that the reader will find explained in the history of the Piper case. See footnote, p. 307), but it did not prevent the confusion, so that the communicator was supplanted by my brother Charles apparently, though there is no positive assurance of this until the communication is stated in the first person of the one claiming to be my brother. But he in turn is almost immediately supplanted by a lady. The statements about the ownership of the accordion depend for their relevancy altogether upon the question who is communicating, and this is not made clear. Apparently it was my father who had referred just before to his suddenly passing out at last, to the trouble with his head and heart, and said, 'I say, give me my hat,' and hence assuming that it was he that said, referring to the accordion,— 'this was not mine but his. It belonged to George' (cf. guitar incident, p. 461),— we have two statements that are false, though it is interesting to see that they are apparently corrected immediately and spontaneously. But if my brother Charles said it, as he was evidently communicating in the next sentence, the first statement would be true, supposing that the pronoun 'his' referred to the previous communicator assumed to be my father. My brother's next and very definite statement, supposing that the original is rightly read as 'my father,' was exactly true in all its details, namely, the ownership of the accordion, the implied death of the owner, and the name of my brother. My statement that 'it belonged to someone else' is not suggestive of the facts, though it might appear suspiciously near it. The strongest fact in the passage is the statement or implication that Charles is the name of my brother. Annie, or Anna, was the name of my sister, but I am not distinctly told this, while I am left altogether to the contents of later sittings to infer the

possibility that the allusion to the trouble with the head and heart, and to the want of a hat comes from my father. No independent evidential value belongs to the passage. There is simply in it the apparent groping about of inexperienced communicators to make their presence known."

Mrs. Piper herself disclaims any belief in spiritism and suggests telepathy as an explanation of the manifestations of her trance conditions, but we do not think that there is any need for resorting to any extraordinary hypothesis to explain the coincidences which to Professor Hyslop are a convincing evidence of genuineness—in spite of the many errors, haphazard guesses, and confusions of the several impersonifications.

Says Professor Hyslop:

"The second sitting opened with a very marked difference between it and the first. The situation seemed to have completely changed. The same apparent causes for confusion were not manifest. The trance personalities seemed to have the situation perfectly at command. The first sitting had closed with the expressed indication by G. P. that the lady who had claimed me for her son should be made clear again. But in the meantime it was as if the trance personalities had consulted over the situation and the evidence, and had become assured of the right communicators. The opening of the second sitting after the usual preliminaries with the confident address to me in my own name in the very first words is evident of the appearance as I have described it. I was addressed: 'James, James. Speak. James. James, speak to me. James. James,' the name by which my father always called me after 1877. But there was no such apparent fishing and hesitation in regard to the rightful communications that had marked the dubious situation in the first sitting. The way was now perfectly clear for settled communications."

While Professor Hyslop encountered difficulties in identifying the several spirits who changed off without any apparent reason so that he had to distinguish the speakers by the substance of their communications, the spirits in their turn had also to adapt themselves to the novel situation and to learn how to express themselves properly. Quoting from the records Professor Hyslop says:

"Will you let me return again and help to free my mind? Do you know Uncle Charles? (S.: What Uncle Charles?) He is here. (S.: I don't know any Uncle Charles.) And * * No, I am thinking . . . let me see. I think it is not a real uncle. You must remember what I mean. He used to be so nervous.

"It all at once dawned on me that 'Uncle Charles' was a mistake for 'Uncle

Carruthers,' who had died about a month previously. He was the husband of my father's sister. The relevance of the passage is therefore evident. Almost immediately my father says, evidently with reference to this sister and another, both of whom had just lost their husbands within a month of each other: 'I wish you would tell the girls I am with them in sorrow or pleas . . . or joy, it matters not. What is their loss is our gain.' The name (Eliza) of one of these 'girls,' his sister and the wife of the communicator to whom he had just referred, was given in my uncle's communication. The sentence, 'what is their loss is our gain,' was both pertinent and a common expression of father's in situations of this kind. The record then proceeds as follows:

"(S.: Free your mind, father.) I will, indeed, but have you seen the children yet? (S.: I have not seen them for two years.) They are wonderfully good, I think. I know, James, that my thoughts are muddled, but if you can only hear what I am saying, you will not mind it. Do you know where George is? (S.: Yes, I know where he is.) Are you troubled about him . . . he is all right and will be, James. (S.: Yes, all right.) *Worry not.* (S.: No, I will not worry.) But you do. (S.: Yes. I have worried some, but I will not any more.) Thank God. James, if you will only stick to this . . . stick to this promise not to worry, you will in time be contented and happy while still in the body (cf. p. 316).'

"This is a very pertinent passage. How much so is brought out more fully in my notes (cf. pp. 317, 342). But the name of my brother is correct, and the advice not to worry about him was characteristic of my father in the matters connected with this brother. The mental attitude of apology toward him is that of my father toward him while living. The expression 'stick to this' was also characteristic."

Professor Hyslop declares (and I believe he is perfectly justified in his conviction) that the possibility of fraud is excluded; yet he is a little too positive about it when saying that, having stated the situation, he would absolutely refuse to discuss the theory of fraud.¹ When he thinks that it is the critics' duty to prove dishonesty, we differ from him. If critics doubt, they cannot be helped and will have to forego the benefit of being convinced.

Says Professor Hyslop:

"Nor is it necessary to resent any insinuations that we are duped, until those who are possessed of so much intelligence without any previous study of this special instance can produce specific evidence that the subject of our investigation exhibits the qualities and engages in the kind of work that must be supposed in order to meet the case. It is easy to say 'fraud' and suggest any number of imaginable

¹ *Proceedings*, p. 9.

methods of deception, as it is known and practised in most that passes for spiritualism. But it is quite a different thing to indicate the exact kind of 'fraud' necessary to reduce the character of a given case."

Professor Hyslop's case is remarkable on this very account that there is no reason to impute fraud to him, and because he more than any other investigator was aware of the fallacies of self-deception. Yet in spite of the precautions taken by him, his experiments fail to convince. Positive proof is wanting. The best he can claim is his hope that his experiments are a rambling beginning only, which will finally lead to the establishment of regular lines of communication with the dead.

Mediumistic revelations, it is true, are sometimes surprising, but they are not more so than blotted inkspots which might as well have been used for fortune-telling as the flight of birds, the laying of cards, the pouring of molten lead into water, the observation of figures in dying embers, etc. It is well known how frequently blotted inkspots exhibit definite forms, butterflies, faces, demons, dragons, animals of all kinds or mysterious symbols, and any one endowed with a lively imagination will readily be able to interpret their meaning.

As blotches will acquire a plain and unmistakable meaning to those who seek in them a hidden sense, so the random talk of erratic minds will be full of deep significance to those who are blind believers in occultism. The haphazard of coincidences is so grotesque that wherever a belief in miracles prevails, miracles will actually happen. Says Faust:

"Das Wunder ist des Glaubens liebstes Kind,"

and Mephistopheles, when bewitching the drunken students, exclaims:

"Hier ist ein Wunder, glaubet nur!"

While I do not hesitate to say that ghosts are not objective existences, I am not prepared to add (as indicated in the introduction to our article) that ghosts are unreal. If by ghosts we understand apparitions, there can be no doubt that ghosts are as real as our sensations. Our sensations in dreams are as real as the sense-

impressions of our waking state, and apparitions are dreams in a waking state. Here again (as in all other psychological problems) the miracle of sensing is exactly the same for the normal as for the abnormal conditions. How wonderful that a sense-impression, caused by contact with the surrounding world, is transformed into perversion; the ether waves change into visions, viz., pictures in the eye conceived as forms outside, radiant with the warm glow of color and moving about with life; air-waves become sounds, high or low, noisy or clear, beautiful and appealing in music and freighted with meaning in language. Tastes and odors are the psychical aspect of chemical processes, and resistance, hardness and softness, cold and warmth, are transformed pressures and stresses of mechanical contact. The reality of sensation as a telepathic mechanism, the actuality of feeling our internal states as surroundings, the immediate awareness of distant objects in corporeal visions and sounds and touches and tastes and odors is the wonder of psychic existence; dreams are merely pale echoes of it, and the abnormal states of hallucination are ugly distortions of the grand phenomenon not less wonderful, but happily of rarer occurrence, and because unusual, therefore attracting more attention.

Sailors used to delight when passing the line in playing jokes on unwary passengers or on the ignorant new hands on deck, one of them consisting in a plan of showing them the line. The old boatswain is busy with the telescope that he has put up on a tripod on the bow; he murmurs, "I can see it plainly; it may be six or seven miles distant." Passengers ask, "What can you see?" and he answers, "The line." And truly, whoever can be induced to look through the glass, will see a big line stretch along the horizon. It is a hair that has artfully been attached to the objective. The line is visible far away about six or seven miles; it is as real as the whole picture of the ocean waves; but like a hallucination, it is no objective reality in the surroundings of the ship where it appears. Its appearance is due to a disorder in the apparatus which serves the function of perception. So angels and devils, deities, seraphim and cherubim, incubi and succubæ, are (whenever they make their appearance in a disturbed soul) real

enough, but their reality is a psychical state in the mind, not a bodily presence outside. That as psychical states they are real, is no more wonderful than the reality of any normal sense-perception.

As soon as the passengers know the secret of the trick, they no longer see the line stretching across the ocean, but are conscious of the disturbing presence of a magnified hair whose form is superimposed upon the picture of the distant waves. A comprehension of the subjective nature of its cause will gradually give us the mastery over hallucination, but ignorance condemns us to slavery. Apparitions impress us more successfully with the notion that ghosts exist than do the prestidigitateurs; for apparitions have the advantage of being real, while sleight-of-hand consists in tricks by which we are duped.

The professional medium is a performer who utilises the belief in ghosts or the notion of the objectivity of psychical abnormalities to make a living. Undoubtedly it is an interesting profession and its practice demands a keen observation and a quick judgment of character. It differs from sleight-of-hand considerably, in as much as the latter consists in the performance of tricks which in their minutest details have been planned beforehand. The medium must constantly be on the lookout and watch every opportunity to surprise his victims with an unexpected revelation or an inexplicable manifestation of his spiritual power. His art consists in deriving knowledge on the sly without rousing suspicion and utilising it without betraying his source of information. He must prepare his public by instilling into their minds a belief in the possibility of spiritistic phenomena, for if he succeeds in this he will have easy play when the occasion arises to show his powers.

One medium who did his best to surprise me with his spiritual vision, told me that he could see the spirits of great sages hovering about me, and I should say whether he was right. Among them he saw Confucius and Buddha. If he had been better informed he would have named Lao-Tse before Confucius, but I did not mean to be a stickler for trifles, so I freely granted the truth of his observation and asked him to describe to me their appearance, as I had always longed to know what these men looked like. Em-

boldened by his success he described Confucius as a typical Chinaman wearing a long cue (!) and Buddha as a venerable old man in flowing white (!) robes with a long white beard (!). My mediumistic friend did not know that the cue was only forced upon the Chinese by the Tartars, and that Buddha belonged to the order of monks that shaved their heads and wore yellow robes. Buddha does not seem to have observed the rule of shaving his head, and Buddhist artists represent him with hair on his head and bearded, but never with long whiskers or a flowing white beard.

It takes a good education to be a successful medium, unless he seeks his public among the uneducated whom it is easy to dupe.

It is comical to notice that the spirits of well-educated Germans make the mistakes which German-Americans are apt to make and thus a message which is surprising to the uninitiated is comical to those who know German. Here is one actually and literally given which is written in the typical spirit style and contains a grammatical mistake that betrays its origin :

"Du siehst im Fall alles günstig ist kann ich zurütk kommen um Dir eine Botschaft zu bringen. Gott liebt Dich und ist immer mit Dich. Ich bin glücklich.

"In Liebe

"Vater."

Of course a medium claims only to tell you what he sees and he only transmits messages such as he receives. If Confucius wore no cue in his lifetime, and if Buddha did not dress in white, and if he shaved his head, they may have changed their style in spirit-land; and an educated German may have mixed with crowds of spirits less careful with their grammar than he was in his life, so that he no longer discriminates between *dir* and *dich*. Who, in theory, can deny the possibility of the argument? Yet no sensible man will accept it. Nevertheless, it appeals to those who are satisfied that whenever an unbeliever grasps a spirit, the spirit will escape as a matter of course but will substitute in his place the medium. The theory presupposes a strong faith in the existence of ghosts, but it is good, and experiments have so far proved it to be true.

A very good method of experimenting with mediums wherever

one is utterly unknown is by tacitly acquiescing to some of the haphazard but erroneous guesses and thus leading them on a wrong track. If we invent the existence of a late sister or brother whom we never had, the medium will frequently describe their personalities such as we conceive them to have been; and if we consider their experience and daily practice in guessing thoughts which are typical with all their patrons, their ability to ferret out secrets by no means calls for extraordinary explanations of thought-reading by telepathy or occultism.

Many years ago, I myself, in company with Dr. K. Richard Koch, now professor of physics at Stuttgart, and several other friends, made experiments along the line of those psychical conditions that lie in the field of mystery. We made use of a spirit-writing machine called a "psychograph," similar in purpose to the planchette, built not unlike a pantograph, having an indicator or pointer turned downward, which runs easily over a sheet of paper bearing the letters of the alphabet. The experimenters take hold of both ends of the instrument, and form a chain by touching their hands; any witnesses may form intermediate links in the circle. When the excitement is sufficiently raised, the indicator begins to move, sometimes slowly, sometimes rapidly, and rests from time to time on the different letters. The lightness of the apparatus makes it possible that either of the experimenters holding one end of the psychograph can slightly guide it. An unconscious guidance is of course more than a mere possibility which in explaining the experiment deserves serious consideration. In spite of innumerable most remarkable answers which we received through the psychograph, we could not establish a satisfactory theory, except that of self-delusion. Our desire for the miraculous unconsciously acted in collusion with our own subliminal soul-activities. Although subjectively both honest and critical, we became dupes of our own wishes, which anticipated our hopes, making us pounce joyfully upon every accidental coincidence, and these coincidences were not only frequent, but sometimes also surprising.

Since the records were destroyed, the report of our *stances* is beyond recovery, nor do I regret it, for the world is not poorer for

it, since they would contribute nothing toward a solution of the problem—except (as stated before) the frequency of surprising coincidences, viz., of instances when an answer hit the truth under circumstances under which the attending persons could have no information on the subject. Such remarkable cases, however, changed off with silly or stupid or unmeaning sentences and also with answers which seemed to be indicted by a lying spirit, for they hit it wrong, as if on purpose, for the sake of leading astray or mocking us.

Years after these experiments the idea struck me that according to the law of probabilities such should exactly be the result of haphazard guesses. If I have a bunch of six keys and try them in one of their six respective key-holes, my chance of hitting the right one is one sixth. But I may hit the right one at once, or perhaps I may try all and find the right one to be the sixth in the series. The extreme cases of good luck and ill luck may not happen more frequently than the others, but they will certainly be better remembered and thus produce the impression of a greater frequency. Did you ever reach the station after train time and find the train late so that you could just step aboard and go? If you did the coincidence at once assumes the appearance of being providential. But sometimes the reverse happens, you arrive at the depot only a second late and just in time to see the train pull out while you are left behind. Does it not give the impression of a malevolent interference of some evil spirit? There are many misprints in books and newspapers, but most of them remain unheeded: those that are imputed to the printer's devil are sure to attract attention.

When still a boy I dreamed once how death, in the shape of a skeleton, entered the house of a schoolmate of mine, and when on the next morning I looked out for him he was missing, and during school hours a message was delivered to the teacher that his father had died during the preceding night. He was by no means one of my nearer friends, nor had I known his father or heard of his illness. How many hundred and thousand dreams have I had which did not turn out to be true; and they are forgotten!

Being interested in the psychological problem, I thought it might be interesting to make experiments in the line of probabilities and the way they are accepted, and I can say that I was successful. I imagined myself in the place of a medium and acted accordingly, only with the advantage that while the professional medium must be ready when called upon, I could bide my opportunity and so I was always sure of success. The victims of my experiments must excuse me for publishing these accounts, but since I may fairly assume that they have all passed into the spirit-land where they have ceased to worry about earthly affairs, I hope to be forgiven.

About eighteen years ago I met an old and highly intellectual lady of distinguished family whom I had in vain tried to convince of the fallacies of the common spiritualistic vagaries. Having mentioned my experiments with the psychograph, I promised to produce the machine and explain it to her. I was determined to make a success of the experiment, and so I assisted the spirits in their attempts at manifestation.

"This machine is interesting," said Mrs. A.; "perhaps it can tell us whether or not spirits are present." I deemed it wise to let her name the spirits first whom she wanted to address. So I guided the indicator to the letters CALL THEM. I had just finished when she threw up her hands with great joy. "I knew it," she exclaimed, "he is always with me." I gazed at her with unconcealed and sincere astonishment. "Who?" I asked.—"Did you not read the reply?"—"Yes, I did," I said, and paused in expectation.—"Oh!" she continued, "you do not know him! He died when only nine years old, and he is always with me!"—I repeated my question, "Who?"—"Allen, my boy, a darling child."

She read only the letters ALL and E, supplying the N from her own imagination, for she expected the name Allen.

My first answer had been a happy hit, and I was not less successful when I continued the game. "I knew," said the old lady, "you were sent by my daughter Mary. You were sent to-day, for it is a special day which she wishes me to remember. Let us ask the psychograph what day is to-day?" Now I saw three possibil-

ities: either it was a birthday, or a marriage-day, or the day of her death; but there was no time left for weighing the probabilities, and I made the machine reply BIRTHDAY. My guess proved to be wrong, but Mrs. A. was more delighted than before. "That is just like my Mary; I ought to have expected that answer. To-day is the anniversary of her death, and she calls it her birthday. But she is right: death is a spiritual birth."

I will mention here another occurrence that happened to me while living in Germany. One afternoon on coming home my landlady told me: "I have visitors, among them a spinster well progressed in years, and yet I happen to know of a love affair she had with a captain R. in my husband's regiment when they were quartered in their home during the maneuvers. He told my husband all about it and (the poor fellow!) died a fortnight afterwards. . . ." I was introduced to the company, and cards lay on the table. I met Miss B., and in the course of the conversation she happened to ask me whether I could tell fortunes. I replied that I did not believe in fortune-telling, but I had tried it and knew several methods of doing it. She now pressed me to try it on her, and I yielded not without ostentatious reluctance. I began: "I see nothing of marriage; but there lies the king of hearts, and there is a little love story." Here I halted as if frightened at a certain card-combination. "Oh, fortune-telling is a farce. Now here is the ace of spades near by; that means a case of death. There can be only a few weeks between. The cards are very definite. I could spell out a name!" Several voices interrupted me: "Oh, do so! it will be interesting to hear Miss B.'s love story," and I said to myself musingly: "But it gives no sense. Here it is: I spelled out the letters CAPTAIN R. . . ."

How the poor old lady's face blushed! I did not betray that I noticed it and endeavored to draw away from her the attention of the other guests.

In comparing notes with others, I heard many stories that are both amusing and instructive.

The late Mr. Alvan Clark, the well-known manufacturer of telescopic lenses, had much experience in this line; he was full of

it and told me how once he had had a very interesting sitting with a common medium who hit on his occupation by describing it with much circumlocution but correctly by saying (I quote from memory merely): "Your father is standing behind you, and you are doing work in the line of—well, not an optician, it is much higher; you are on the top of the ladder, but it is of that kind." Mr. Clark went again and again and spent many a dollar uselessly in order to try whether the same or some other medium would succeed again and have a similar surprise in store for him. However, all was in vain. He had no explanation except that it was a happy hit of the medium, but he remembered a short time before visiting the medium to have stood before an optician's shop and may have dropped a few words concerning some apparatus which could have been overheard by a bystander.

Mr. Alvan Clark had several experiences in the same line as myself. Once going West, he met in the sleeping-car a gentleman who spoke frequently about spiritual phenomena, and Mr. Clark had become curious to know who he was; but his fellow-traveller appeared to be careful not to betray his identity, and so Mr. Clark deemed it improper to ask for his name. Once, however, the stranger betrayed himself when a certain firm in Ohio was mentioned, by saying: "We furnished the iron castings for their works." This was sufficient for Mr. Clark, and he knew it was Mr. S. of C. When the mediums were again referred to, Mr. Clark said that he sometimes felt as if he possessed some strange powers himself, but he succeeded best with strangers whose very names were unknown to him. He knew that Colonel S., a near relative of Mr. S., a one-armed veteran of the war, who loved to drive with spirited horses, had died in an accident. When about to give his fellow-traveller a trial, he began in a dreamy way: "I see a long bridge, and I pass along, I see a factory. I can read the shield over the entrance: S. & Co. There is a gate, and a buggy is driven by a one-armed man, apparently an old soldier." (Then he described Col. S. minutely.) "The horse shows much mettle, and the driver has difficulty in holding it. The street-car passes by; the horse shies. The buggy is upset. I fear the one-armed driver is

dangerously hurt ; etc., etc." There is no need of finishing the story or giving further details. The event served Mr. S. as an additional proof that the best and most convincing evidences are obtained not from professional mediums but from private persons and sometimes in quarters where one would expect them least.

One more story of an old forester of my native principality, the earldom of Stollberg-Wernigerode. On a beautiful day in fall when the hunting season was just opened he sauntered through the wood and strolling over the frontier into the domain of his Prussian colleague was suddenly confronted with a splendid roebuck. He could not forego the temptation to shoot, and the buck fell. The forester saw him crawl into a thicket near a big oak a few steps from the pillar that marked the frontier. There the buck sank down and died. At that moment he was hailed by a Hallowih from a near distance. Knowing that he was on foreign territory he withdrew as near as possible to his own domain. After a few seconds his Prussian colleague, Forester M., made his appearance and said that he had seen him and followed. Happily he had not witnessed the good luck of the Stollberg forester on illicit hunting grounds, and a few words were sufficient to explain the shooting. He had tried his gun and was now searching for the bullet in a tree at which he had aimed.

The incident was no longer thought of and the two foresters returned each one to his own home. The weather changed and a heavy rain poured down, when a messenger from the old Count Stollberg made his appearance at the forester's residence with the request to furnish a roebuck at the castle in Wernigerode. The old forester rose and said: "How can I go out hunting in this storm? What shall I do. Well! I'll do a thing that I would not do under other circumstances." Therewith he took his gun and with some mysterious gestures shot into the chimney. Then he turned to a lad in his employ and described to him the place where he would find the roebuck. The lad hitched a little wagon and within a few hours the game was delivered at the castle. No wonder that the old forester was looked upon with awe by all his subordinates.

In the face of my own and other people's experiences it seems

advisable that we ought not to allow ourselves to be overawed by one or two or even ten or twenty surprising coincidences. Sometimes an incident seems inexplicable except on the assumption of miracles or a special interference of spirits. We must always bear in mind that "many things happen between heaven and earth which are not dreamed of in our philosophy." These "many things" are mostly items of the simplest and most natural kind, which would give a clue to the explanation of the most extraordinary events.

I abstain from making any conclusion or putting forth a new theory as to the nature of ghosts; I break off abruptly by asking my reader's indulgence for having dished up in lieu of a philosophical essay some amusing stories; but I assure him my intention was not to divert him with anecdotes: I am serious, and there is a moral in these humorous incidents which is worth while minding.

A *résumé* of my views is simply this: I believe in spirit, but not in ghosts.

EDITOR.

A STUDY IN THE LOGIC OF THE EARLY GREEK PHILOSOPHY.

BEING, NOT-BEING, AND BECOMING.

TO understand the early Greek philosophy one needs among some other things candidly to recognise and appreciate the following fact. Those early philosophers from Thales down even to Anaxagoras and the Atomists were almost, if not quite, in complete subjection to the physical or cosmological point of view. The reasons for this subjection, naïve thinkers that they were, are not far to seek and can hardly need attention in this place, but the consequences of it are important. Thus, the human mind being always conservative changes its point of view only under extreme necessity, often preferring even absurdity to surrender, and this conservatism is certainly bound to be stronger among early naïve thinkers than among the mature and more sophisticated. The ancient Greeks, then, of the days before Socrates were for several centuries under the spell of the physical standpoint, and their imagination, made subtle and ingenious by the persisting conservatism and by the necessities that the very progress of thought imposed upon it, led them into strange unearthly places, where even paradoxes, seen and unseen, lost their wonted terrors. And of course in our own times, in these times of natural science, which has shown a disposition at any cost to hold to the physical and mechanical point of view, sympathy with them is easy.¹ By our modern science the paradoxical has been confronted with an amazing bravado, when

¹ I do not forget that the position taken by science to-day is usually taken consciously, being for the most part a matter of method.

not with a most complacent unconsciousness, and for that matter all human thinking, modern or ancient, has shown itself similarly bold or blind. Human thinking, necessarily one-sided because necessarily subject to some particular point of view, in its search for objective truth must sooner or later, consciously or unconsciously, run into the contradictory or paradoxical, which is both-sided or impartial, and the paradox, so developed, is only the labor that precedes the birth, albeit the slow, almost reluctant birth of a new point of view.

So, to return to the early Greeks and among them particularly to the Eleatics and Herakleitos, the concepts of Being, not-Being, and Becoming are natural results of thought seeking an objective truth, a truth that knows no limitation of view, under the spell of the physical or cosmological standpoint, and they are all heavy with paradox, hidden when not exposed. Thus the Ionic philosopher, Thales, had tried to satisfy the demand of thought for unity with a single physical element, water, and his immediate followers, after vacillating somewhat among the elements generally, were brought to the idea of the Boundless—*τὸ ἄπειρον*—a great all-inclusive element that could stand for all only by being none. This notion of the Boundless, however, of one thing that was no single thing, a startling paradox when really faced, was in truth teeming with many possibilities, some of which the Milesians themselves partially thought out,¹ but by Xenophanes, father of the Eleatic philos-

¹ The negative, for example, in the idea of the one thing as no single thing is significant beyond its mere effect upon the conception of a constituent unity. Indeed, it really makes the unity more than constituent, turning it from a static to a dynamic conception, from a passive to an intrinsically active principle; for the one thing that is no single thing must be a potential thing; that is, potentially it must be everything. And Anaximander felt this and added in consequence to his doctrine of the Boundless the doctrine of a process, the constant separation of individuals out of the primal unity. So did the potential ever become actual. The resulting individuals, however,—and this also for Anaximander—were necessarily opposites in every case, they were actively opposed to each other, since only by such opposition, by such counter-compensation, could either the primal unity or its negative be properly conserved. And the active opposition mingled with the process of separation a compensating process of unification or adaptation. "And into that from which things take their rise they pass away once more, as is ordained, for they make reparation and satisfaction to one another for their injustice, as he

ophy, it was regarded as purely, unmixedly physical, and, in consequence, was by him developed only on the side of its sheer—static?—reality and unity. Only Being is, he proclaimed, and Being is homogeneously and indivisibly one. On good evidence Burnet has identified this Being with the plenum, that is, the one 'immobile all-filling thing'.¹ Not directly, however, on anything that any of the Eleatics openly said about Being are we here to fix our chief attention, but on the apparently unconscious or only half-conscious paradoxes to which their philosophy was finally reduced. Thus their One was also many; their plenum, vacuum; their Being, not-Being; and their Infinite, finite. Into such darkness did their persistent physical and cosmological point of view bring them.

Their One was really many for no less a reason than that they opposed the Many to it. Extreme opposition is even worse than politics for making strange bed-fellows, since it ends by making the principals themselves lie down together. The One that remained after complete abstraction of the Many could not but be wholly formal or empty; and so, although perhaps still extensively one, it was intensively many. A moral character that owes its unity or integrity to separation from the temptations of the world is virtually, or intensively, a dissipated character, as the outcome shows, when contact with the world comes, and what is true of unity in morals is equally true of unity in a doctrine of substance. Moreover, not only was the Eleatic One virtually—or potentially?—many, but also the converse was true. A manifold that owed its plurality to the abstraction of unity could be a sphere of only the most indifferent differences, that is to say, of differences wholly passive with reference to each other, so that the Many, albeit extensively plural, was intensively one. So, then, the two concepts

[Anaximander] says in these somewhat poetical terms." The negative unity, then, its potential or dynamic character, its conservation or preservation only through expression in opposed individuals and its process of unification, were concepts that were logically inseparable; and although these suggestions of Anaximander seem to have been made only for a time to be neglected, the very logic that induced them was bound soon to assert itself, as it did in the subsequent philosophy of Herakleitos, whose concept of Becoming is to receive attention in the present paper.

¹ See *Early Greek Philosophy*, p. 189.

of the Eleatics, the One and the Many, directly opposed as they were, were nevertheless mutually inclusive.

But, secondly, the plenum was vacuum. Thus we may rightly think of it as the greatest among all things, the all-filling thing ; but this is only one view of it. Another view, having equal warrant, is made necessary by the very plenitude. It was also the all-containing thing and so was immaterial relatively to the many material things in it. The greatest thing, necessarily including all other things, however plenal within itself, could not but be empty in respect to their fulness. Simply it could not meet the demand of the physical view that it be at once one different thing among other different things and the unity of them all, that it be the greatest thing and at the same time include all other things, without harboring this contradiction.

And, thirdly, Being was itself not-Being ; or, conversely, not-Being was also Being. Of course, these ideas were interdependent or significant only relatively to each other, and such dependence would make complete confusion and paradox, but the meaning here is something more. Logically, as the Eleatic philosophers themselves came to realise, the concept of not-Being was necessary to that of Being ; the Eleatics even used the argument to absurdity, showing the impossibility of not-Being, and this necessity or the importance of such an argument could only give a hint, however imperfectly or distantly understood, of quite another sort of reality than that of physical substance. Physically the world of not-Being, that is, the world of change and multiplicity, was shown to be unreal, to be illusory, to be real only ideally, but as always with ideas of unreality or philosophies of illusion, the standing notion of reality itself, of Being and unity, was put in jeopardy. To have found illusion was to feel, if not clearly to see, the need of viewing reality from another standpoint, from a standpoint not physical or at least more than merely physical. Or again, the physically unreal could not be ideally or logically real without at once upsetting the stability of the physically real.¹ In short, then, by its own

¹ Or, as another way of putting the same truth, without at once making necessary a new idea of the physical itself.

opposite Being was either robbed of reality or given the sort of reality, namely, that of mind or spirit, that logical necessity or the ideal reality¹ of the physically illusory would suggest. And this only adds to the meaning of what was found above, namely, to put it paradoxically, the physically vacuous character of the all-filling but also all-containing thing or the intensive plurality of an empty, formal One, for a vacuum, like mind, is immaterial, and an intensive plurality is possible only to the unity of mind, which transcends the limitations of extensive quantity.

So, fourthly, the Infinite of the Eleatics was finite; the Finite, infinite. Before considering this, however, we need now to formulate and emphasise a principle that has been well exemplified in the foregoing. Opposites, such as the One and the Many, Being and not-Being, Plenum and Vacuum, in the first place reproduce each one within itself the very opposition that separates them and in the second place give, each to the other, another meaning. In a word, each is always self-opposed and double.² Thus above in every case we not only found each opposite in the other but also were brought to recognise, or at least to a point where we might have recognised, that each had two meanings, one open and the other hidden. We might have seen, if we did not see, two kinds of unity and plurality, two of plenitude and vacuity, and two of reality and unreality. And, to return to the Eleatics' fourth paradox, the antithesis of the Infinite and the Finite has the same fate. Each of the two is in itself the other, and each gets from the opposition a second meaning. Moreover, even the Eleatics, or at least some of them, seem to have realised this; else there was no rhyme or reason in their assertion that the One or Being was "neither finite nor infinite," being both. Some, I know, insist that the evidence of such an assertion is very meagre or even wholly wanting, but it nevertheless remains that as a school the Eleatics were in disagreement on the point in question, some flatly denying the infinity and others the finiteness of Being, and their disagreement

¹ I. e., reality in experience.

² This principle I have made use of already in another article. See "Physical Psychology," *Psychological Review*, March, 1900.

may fairly be taken as equivalent to the statement that Being was "neither finite nor infinite." And, logically, which is to say consistently with the real trend and import of Eleaticism, any Eleatic might have made the assertion, whatever may or may not have happened to be said or reported as said. Indeed, history can ill afford to depend wholly on visible evidence, which is at best only "circumstantial." But, leaving the genuineness of the saying to the antiquary, we have only to ask what precisely is meant by being "neither finite nor infinite," and particularly what is the second meaning that this paradox must convey. Merely to appeal to the general principle of self-opposition and duplicity can hardly be expected to make all things clear.

As suggested already, what is neither finite nor infinite must somehow be both; yet how both? That the infinite as not the finite, as outside of the finite, is itself only another finite is obvious and commonplace. The finite, also, relatively to its finite opposite is itself infinite. And the two are thus necessarily mutually inclusive or identical; a curious result, truly, but not to be gainsaid. "Yes," says some one, "but only by dint of a philosopher's ingenuity, of his skill in mere logical gymnastics. To common sense the infinite never can be and never shall be said to be finite, as if forsooth, since by the same token it would really come to this, any smallest part of anything should contain the whole." But we reply that even any smallest part does contain the whole; for is not any part always something more or other than a merely quantitative part? Philosophy appears "ingenious"—certainly a strange mark of shame, it appears skilful in the antics of logic, whenever its thought has outgrown the prevalent traditional form for the expression of thought. Thus, for the case in hand, the whole-containing part or the finite infinite or the infinite finite, however absurd quantitatively, is nevertheless burdened with a real meaning, the very absurdity being due only to the broadening and deepening of the idea of quantity that the concept of infinity effects. What idea is not destined to be broadened and deepened into something more than itself? What idea must not sooner or later end in apparent absurdity? Quantitatively, part and whole may not be coextensive,

but they certainly are so qualitatively; else there were no significance in their being part and whole. Broadening and deepening the idea of quantity, then, by that of infinite quantity, only disclose the fact of quality in the world of quantity, or as equivalent to the same thing, materially change the idea of quantity itself. In short, the opposites, the finite and the infinite, are not only each one self-opposed, but also double. They are double with two forms or "categories" of thought, or with two notions of quantity.

The two "categories" are of course quantity and quality; the two notions of quantity, that of quantity as mass and that of quantity as ratio. That quality is "neither finite nor infinite," being both in that it quite transcends the peculiar limitations of mere quantity, of quantity as mass, is commonplace, but the ratio too, however fixed or constant or even because fixed or constant, is equally independent of these limitations and so is "neither finite nor infinite" also. Thus the triangle is a triangle quite without regard to its size, for mere mass is not even necessary to its being, as many operations in mathematics have borne witness; only the ratio in the constant sum of the interior angles is necessary to its triangularity; and what is true of the triangle is similarly true of any number or of any geometrical figure whatsoever. Recall, too, that in the history of mathematics, unless I greatly misunderstand, the clearly conscious use of quantity as ratio followed upon the recognition of incommensurables and the employment of the infinite "limit" which incommensurables made necessary. Quantity then became ratio because from the standpoint of infinity it had in the first place to be separated from sheer physical mass, and in the second place to be given the relational as opposed to intrinsic value which belongs to the ratio. The infinitesimal is preëminently not mass but ratio.

So we see what the opposition of the finite and the infinite was burdened with and accordingly in just one more way what was lurking in the Eleatic philosophy. Eleaticism was all but at a point of saturation when precipitation would be inevitable, when the physical, cosmological point of view would have to be abandoned and succeeded by a view that would openly recognise the

second meaning with which the different opposites are now seen to have been pregnant. And no consequence to Eleaticism of the One being "neither finite nor infinite" can be more significant than its reduction of the physical or materialistic monism to a mere bubble that was likely to burst at any moment and become at once, as if the reverse and obverse of each other, materialistic pluralism and idealistic monism. So good an Eleatic as Melissos was keen enough to say: "If there were many things they would have to be just of the same nature as the One;" and, although this was hardly intended as even a concession to pluralism, yet, like all assertions of its kind, in which an opponent's view is admitted for the sake of argument, it put Eleaticism upon the thinnest of ice. Thus Burnet has declared¹: "What appears later as the elements of Empedokles, the so-called 'homoeomeries' of Anaxagoras and the atoms of Leukippos and Demokritos is just the Parmenidian Being. Parmenides is not, as some have said, the father of idealism; on the contrary, all materialism depends upon his view of reality," and this is true so far as it goes and it shows how thin the ice was. It is true except for its assumed superiority over those who have seen in Parmenides or in Eleaticism generally the progenitor of idealism. Surely materialism was never born alone. Materialism and idealism were twins.²

Still a fifth paradox, not yet even mentioned here as belonging to the Eleatic philosophy, might profitably be considered. The one plenal thing, that is, Being was immobile and consequently motion was illusory, belonging like plurality to the sphere of not-Being. In rest and motion, then, we have two more opposites of which self-opposition and duplicity may or rather must be true, but how? The denial of motion to Being was (1) in consequence of the plenum seeming necessarily static or (2) in consequence of space's infinite divisibility making either the shortest distance infinite or the limits of the longest contiguous, and only by examina-

¹ *Early Greek Philosophy*, p. 194.

² A study in the logic of Greek pluralism as formulated by Empedokles and Demokritos was published in the *Philosophical Review* for May, 1901.

tion of these premises can the conclusion to which they led be understood. The argument from plenitude is a familiar one, for to many others as well as to the Eleatics the world has seemed too full for motion; but what can such an argument mean if not that something besides extension, that is, besides mere change of position in a massive or purely extensive space, must be really true of motion? Not motion is impossible in a plenal world, not a plenal world must be absolutely passive, but instead the motion of a plenal world must be intensive as well as extensive, or—with reference to the change it manifests—qualitative as well as quantitative, or perhaps, as the terms are sometimes used, chemical as well as physical. Moreover, physically a plenal world is hardly conceivable as a passive world in the sense of a world physically at rest, since the *perfectly* passive must always be acted upon from without and could not accordingly be plenal or immobile. But the argument from the infinite divisibility of space, the natural sphere of motion, is more interesting and possibly more obviously serviceable to our present purposes. Thus there can be no shadow of doubt that motion in so far as extensive becomes rest in an infinite space, in a space of infinite infinitesimal parts; but why should it not? At infinity the quantity of which space is made is, as we have already been reminded, not mass but ratio, and in a space made of quantity as ratio, motion far from being unreal only gets another meaning and even a deeper reality. Or, again, the pause or rest that space's infinite divisibility gives to extensive motion cannot be a negative of motion in the sense of something that excludes motion; it is, on the contrary, an essential character or property of motion itself just as infinity was necessarily in and of the finite, not apart from it, or as ratio was an inner truth of quantity, not a denial of it. Achilles was very swift and the tortoise was very slow, but in a space of infinite massless parts or points Achilles could never appear as overtaking the tortoise, because in such a space, not the actual distances traversed, but the ratio of the distances traversed, was really the significant thing and the ratio was a constant. The motion, then, was *also* rest. You do not see this? Then you have not seen that at infinity quantity, which here is distance, is significant

only as ratio. Zeno himself may not have understood the rest, to which he reduced motion, in just this way, he may not have appreciated the distinction between mass and ratio and its origin, so to speak, from the projection of quantity to infinity, and more recent logicians and mathematicians, however much they have profited by use of the idea of infinity, may not have seen in infinity anything more than the absolutely large or the absolutely small, but this is no hurt either to the real effect or to the real import of infinity itself. Simply projection to infinity makes quantity only ratio and in a space of quantity as ratio motion is rest. The projection reveals intension in what had seemed only extensive.¹

So, like the other opposites in Eleaticism these two, motion and rest, were mutually inclusive or self-opposed and double,² and with this final evidence before us of the inner truth of the Eleatic philosophy we can pass with confidence to the consideration of the conception of Becoming in which Herakleitos sought to unite the Eleatics' opposites. Indeed, in the self-opposition and duplicity we have in the first place a perfect justification of Herakleitos and in the second place a direct and thoroughly obvious indication of the import of his notion of Becoming. Herakleitos was truly a "dark philosopher," but after all is said his obscure deliverances were only an open, public expression of what was private and hidden, or if even recognised at least not understood among the Eleatics.

¹ Projection to infinity seems to me to be only a process by which the constructive or constitutive principle of a series is positively asserted as a *principle* if not actually abstracted, the abstraction, of course, being from *all* the particular cases to which the principle is applicable. At infinity we have, not another term or case, for an infinite series has no last term, but the order or system or at least what really amounts to a disguise or indirection for the order or system of the series. See also a short article: "Professor Fullerton on the Doctrine of Space and Time," in *The Psychological Review*, March, 1902.

² In summary the opposites, the One and the Many, were double, with extensive and intensive or potential and actual unity and plurality; Being and not-Being, with reality as physical and as ideal or logical; plenum and vacuum, with the fulness or unity of matter and of mind; infinity and finiteness, with quantity and quality or quantity as mass and quantity as ratio, and motion and rest with motion or rest as physically absolute and as only relative or as extensive and intensive.

Of Becoming, then, two things are necessary. It was very far from being an unmixed physical conception, and it was no nearer to being wholly idealistic. Both to those who would emphasise Herakleitos's selection of fire instead of water or air for the first principle of things, and would consequently make a somewhat tardy Milesian philosopher of him, and to those who would commit that other anachronism, even more violent, of finding him a well-developed forerunner of Hegel, we have only to say that such interpretation has little if any respect for history, logic, or common-sense. Was Herakleitos a hylozoist or in the pre-Socratic sense a materialist? In any sense, was he an idealist? Our foregoing analysis of the opposites which Becoming unified and of the conditions or logical implications of opposition generally, can suggest only that Herakleitos was neither materialist nor idealist, and that he was neither because both, and both at a time when mind and matter had been separated, but without anybody really knowing, really having the eyes to see, what had been done; such was the spell of the cosmological point of view. Above, it was said that materialism and idealism were twins born of Eleaticism. They were and the philosophy of Herakleitos was a contemporary of Eleaticism, rather than a follower; and with its obscurity, paradoxes, apocalyptic deliverances and all, it must stand in history for a not unwarranted and certainly not unnatural protest against the dual life that philosophy had in promise, that was already at the hour of its coming. Becoming, neither any mere physical process nor any pure principle of dialectic, was the always equal struggle of the physical and the spiritual, of body and mind; it was that double process, with its "way up" and its "way down," which in these days one can style only mind and matter interaction; it was the poise of consciousness, at once sensuous and rational; only—and this is the important qualification—for mind, for the spiritual or rational Herakleitos and his contemporaries had only the indirections of physical abstraction and paradox. And how could Becoming be anything else, when the opposites, which were its recognised factors, were themselves alive with all the conditions of dualism?

In conclusion it would be interesting to bring the electricity of

these philosophies down from the clouds of logical subtlety to the earth of the Greek life of the time ; for opposition with all its logical implications was developing rapidly in the relation of Greek and Barbarian, and, through the art that their conflict stimulated, the consciousness of Greece assumed just that poise of the sensuous and the spiritual or of the passing and the coming, which Hera-
kleitos, however mystically and philosophically, recounted in his conception of Becoming. But to many, fancies such as these are mere fancies, idle perhaps in any place, and in a logical study like the present most impertinent.

ALFRED H. LLOYD.

THE UNIVERSITY OF MICHIGAN.

PAGAN ELEMENTS OF CHRISTIANITY; AND THE SIGNIFICANCE OF JESUS.

IN CHRISTIANITY we must distinguish between the underlying thought of a saviour and the belief in Jesus of Nazareth as having been this saviour. The latter is now known under the name of Christianity, but it is ideally and to a great extent at least in Protestant countries also actually a Jesuanity, viz., a Church institution based on Jesuism, i. e., the personal teachings of Jesus.

The ideas of Christ and Christianity existed before Jesus, and the Christianity of the Church was one form only of Christianity among many others; and that many other Christianities existed is evident from the fact of the various Christ-conceptions which are offered in both canonical and Apocryphal books—not to mention the innumerable pagan saviours and redeemers, gods such as Hermes Trismegistos, Hercules, Æsculapius, Mithras, etc., and men such as Apollonius of Tyana. We must bear in mind that the traditions which are still extant are only isolated *debris* saved by accident from the general deluge of all non-Christian religions.

The term "Christ" in the sense of Saviour makes its first appearance in history in the Septuagint and the Apocryphal books of the Old Testament. It translates the term Messiah and occurs twice in the Psalms of Solomon (xvii. 36 and xviii. 8). St. Paul applies it to Jesus in his Epistles, and he too regards the term as a Greek translation of the Hebrew word Messiah, the Anointed One. Nevertheless, the derivation is doubtful, for the Anointed One would be *χρίμενος*, or *κεχρίμένος*, or *χρισθείς*. The form *χριστός* or *χριστέος* is a gerund which means "he who is about to be or

ought to be anointed."¹ Consequently it cannot very well mean the Messiah, but only the one who will become the Messiah.

Justin Martyr, of the second century, occasionally uses the form *χρηστός* for *χριστός* and alludes to its significance as "the useful, the serviceable, the good."

Some have tried to connect the word *Christus* with Krishna. Now it is true that a few Krishna legends (e. g., the massacre of the innocents) and some features of the Krishna birth-festivals were practically identical with legends accepted by the early Christians,² and we must grant that Krishna-worship had reached Syria and Egypt, but there is not the slightest positive evidence in favor of the assumption that the name itself should have been used in the sense of God-man and Saviour, and still less that Krisnos became changed into Christos. We deem the etymology of the word Christ to be an open question.³

The Book of Enoch, the main part of which was probably written about 144 B. C., does not regard the Messiah as a man but as a divine personality, a prince among the angelic host,—one who ranks above all the angels, yet is not quite equal in dignity to God. Jewish tradition has the conception of such an angel, called Metathron, who stands at God's side near his throne to execute His will.

The Books of Ezra propound another saviour-conception, which is, however, as little conformable as that of Enoch to the Jesus-Christianity which remained victorious in the end. The Jesus-Christianity originated under other conceptions of a messiah through a peculiar combination of definite historical circumstances,

¹ The verb *χρίειν* means "to rub"; i. e., lightly to touch the surface of a body; "to bedaub." It is commonly used in the sense of smearing the body with oil, as the Greeks were used to do after a bath. But the idea of "rubbing" is fundamental. The word acquired the meaning of anointing as an act of consecration only through its use in the Bible, and it is probable that no one save a Jew would have translated Messiah by *χριστός* or any other derivative of *χρίειν*.

² See Prof. A. Weber's article on the Krishna birthday-festival. Engl. transl. in the *Indian Antiquary*, June, October, and December, 1877.

³ The formation of the word *χριστιανός*, or Latin *Christianus*, is a solecism which can scarcely have occurred before the last decade of the first century. For further details of the mooted question see R. A. Lepsius, *Ueber den Ursprung und ersten Gebrauch des Christennamens*. 1873.

and embodying in itself all those traits of other Christianities which possessed a practical and moral significance, it grew in breadth and was thus enabled to survive. But the strangest thing is that the New Testament contains a book with passages based upon a Christ-conception that knows nothing of Jesus of Nazareth, nothing of the Atonement through death on the cross, nothing of the details of the Jesus-worship preached by Paul, set forth in the four Gospels, and sustained in the epistles of the various apostles.

This Christ-conception, utterly incompatible with the Jesus of the New Testament, is contained in the Revelation of St. John, chapter xii., which (if viewed from the standpoint of the old and uncritical school of theology) is one of the obscurest passages in the Christian canon.

Recent investigations have thrown much light on the significance of the text. Several theologians of the critical school have recognised the non-Christian (or rather un-Jesuanic) origin of this passage in Revelation xii. But Professor Gunkel has finally succeeded in explaining the significance of these strange traditions.

The Saviour is represented in the twelfth chapter of the Revelation as being born in Heaven (not in Bethlehem or anywhere on earth), and he is at once attacked by a dangerous dragon; the child is rescued and taken to the throne of God, while the unfortunate mother is persecuted by the monster. The dragon in his wrath throws down one third of the stars in Heaven, and a combat ensues between Michael and the dragon. Later on, in the continuation of the prophecy, which is found in chapter xix., the child reappears as a hero who fulfils the prophecy (chapter xii. 5) that he will govern the nations with a rod of iron and found the kingdom of God on earth by a most terrible slaughter of the Gentiles. During the infancy of the Saviour, the dragon is at liberty to do much harm, and the time of tribulation is near, but the victorious conqueror is expected and will at last vanquish the monster of the deep.

All attempts to reconcile this picture of the Saviour with that given of Jesus in the Gospels have failed. The woman who is the mother of the Saviour appears in Heaven adorned with celestial insignia, not as Mary of the tribe of Levy and betrothed to Joseph,

but as a deity of Heaven, like those described in pagan mythologies, standing on the moon and crowned with the zodiac, a wreath of the twelve constellations. Nothing is mentioned of the Crucifixion, nothing of the Resurrection, nothing of the preaching of the Word on earth, nothing of the miracles of Jesus, of healing the sick and restoring the dead to life.

That the religion of the prophet who wrote the passage in the twelfth chapter of Revelation is not the Christianity of the four canonical Gospels is obvious, and we have here the remarkable phenomenon of a Christianity which lacks utterly all those significant features which characterise the humanity of Jesus and his special fate in life. We are apparently confronted in this passage with one of the relics of a pre-Christian Christianity, such as it existed among the pagans with whom the Jews came into contact.

Professor Gunkel has proved that the essential features of this pre-Christian Christianity of the twelfth chapter of Revelation are nothing but a recital of the Marduk myth. But genesis has become here eschatology. The report as to the origin of the world is applied to the end of all things and to the renewal of the universe. The chaotic conditions of the age, in which the elect of God suffer and the unbelievers triumph, will be reversed and a new heaven and a new earth will be created, for which the resurrection of the dead is promised and a general restitution assured. The channels through which the old Marduk myth has been transferred to Jewish writers can perhaps no longer be traced back to their sources, but we can plainly recognise Zoroastrian influences and the Persian views of the virgin-born saviour who will found the kingdom of God on earth.

The age was well adapted to eschatological contemplations. Under the influence of ancient prophecies dating back to the Babylonian period, and repeated in purified form in the Zoroastrian writings, a whole flood of apocalyptic literature appeared in which the Jews dreamed of a restitution of the Jewish race and a fulfilment of their national ideals. The oldest of these revelations, Daniel, set the example, and most of them breathed a spirit of bloodthirstiness and revenge. They are written by a race that has

suffered greatly from oppression and persecution; and the truly Christian spirit is utterly absent in them. This, no doubt, is the reason why in the general competition of religious ideas which in those days moved the world, that form of Christianity which is exhibited in the twelfth chapter of the Revelation of St. John failed and was superseded by the other Christianity which, as stated above, might properly be called *Jesuanity*.

One question remains: How was it possible that this chapter could be incorporated into the canonical writings of the New Testament? The answer seems to be this: First, the un-Jesuanic character of the Revelation of St. John is not so obvious as to be at once perceptible to a person reading these chapters or copying them for preservation. They are intermingled with a conglomeration of other chapters full of mysterious hints and prophecies which tend to conceal their true significance. The final redactor of the book knew of the existence of Judaistic Christian congregations in Asia Minor, and there can be no doubt about their anti-Pauline character; yet the opposition made to the apostle Paul is not made openly, but indirectly, by allusions which rendered it possible that it could at last be received into the canon, in spite of its anti-Gentile tendency.

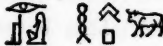
Being canonised, it escaped the fate of suppression when another form of Christianity survived in the general struggle for religious supremacy. Any one who can judge impartially between the two religions must confess that this Marduk-Christianity was bound to succumb in the competition with the nobler, and morally deeper, Christianity of Jesus the Nazarene. The Marduk-Christ is a mythological figure, a god of the ancient Babylonian fairy-tale world, but Jesus of Nazareth is a man, an aspiring, suffering, and down-trodden martyr. There the divinity of the conqueror is grotesque, here it is human; and because it is truly human, it was felt to be truly divine.

In addition to the Marduk Christianity of Babylon, preserved in the twelfth chapter of Revelation, there are Egyptian conceptions of Christ, and even here the name Christ is attested by good authority.

We learn through Sozomenes and Socrates the Church historian, that the cross was used as a prominent symbol (probably the Egyptian *crux ansata*, the key of life) in the temples of Serapis, and Emperor Hadrian writes in a letter to the Consul Servianus:

"Those who worship Serapis are Christians, and those who are especially consecrated to Serapis call themselves the bishops of Christ."

The Rev. Robert Taylor in his *Diegesis*, p. 205, believes that the use of the word Christ is a confusion due to the fear of persecution, and that many Christians, to escape martyrdom, professed to be Serapis worshippers. But the case is the reverse. Not Christians call themselves Serapis worshippers, but Serapis worshippers claim to be Christians. The Emperor's expression does not admit the interpretation that the name Christian was disowned, and we have only the choice that either there was a confusion of these two religions in the mind of the Emperor, or there was actually a class of people in Egypt who worshipped Serapis under the name of Christ.

Serapis is the god of the other world, the life to come. The word is a contraction of Osiris-Apis  Ausar Hapi, i. e., the apis as Osiris, and he was worshipped as lord of the dead.

The Serapis cult was a Hellenised form of the ancient Osiris worship introduced by King Ptolemy Soter for the purpose of reconciling his Greek and Egyptian subjects. A monastery was connected with the Serapæum at Memphis, as we know from papyri found on the spot, and Christian monks adopted some features of the habits of these monks of Serapis. It is certainly not accidental that the institutions of Christian monks originated in Egypt.

Christianity as the faith of the Church is a belief in Jesus of Nazareth as the Christ, and the life of Jesus as told in the Gospels has exercised a paramount influence upon the formation of the creed. Nevertheless, several of its main ideas were added to from other sources. Christianity is not pure Jesuism; Christianity is the religious life of the pre-Christian ages focused round the idealised figure of Jesus. Jesuism is the dominant factor of Christianity; but some of the rays collected from other quarters are not merely accessory. Jesus is the center of crystallisation, determin-

ing the interpretation of the various elements that were assimilated, but some of the more essential thoughts of Christianity are not found in the doctrines of Jesus and must be regarded as independent accretions which on account of their vital importance in the minds of the people naturally and necessarily were incorporated in the new system.

Among such later accretions coming from sources of pre-Christian religions are the dogma of the trinity, the conception of the sacraments, the incarnation idea, the doctrine of vicarious atonement with its peculiar scheme of salvation.

The idea of vicarious atonement, which underlies the sacrificial cult of Paganism as well as Judaism, reappears in the interpretation of Christ's death. Although Christianity is in a certain sense reactionary, in *de jure* recognising the necessity of human sacrifices, it is *de facto* progressive, for instead of continuing the barbarous practice, it served to abolish bloody sacrifices for good. Similarly the superstition of the ceremonial cannibalism of the savage age (based on the thought that by eating the flesh of any creature or by drinking its blood we partake of the powers of which it is possessed) was revived in Christianity, but it became a mere symbol and obtained a deeper and spiritualised significance. The divinity of the ideal man, representing the civil order and the moral welfare of the community, so vigorously insisted upon in the deification of the Roman emperor, found expression in the dogma of the God-man Christ. These thoughts assumed a more ideal aspect under the humaner ethics and the loftier philosophy of the age which rejected the idolatry of the past and began to look upon God as the one deity, the father of all, who with the same love embraces the noblest as well as the meanest of his creatures.

The trinity, or rather tri-unity of God, which is nowhere mentioned in the New Testament, was even in its purer forms quite common among the philosophers in the age of Jesus. Thus, for instance, the *Chronicon Alexandrinum*, explains the name "Hermes Trismegistos," (*Ἑρμῆς τριμέγιστος*), who in Egyptian mythology is Thoth, the scribe of the gods. He is regarded as the revealer of divine mysteries and a shepherd or pastor of mankind (*ποιμάνδρης*);

thereupon it proceeds to make the following statement: "Hermes declared that there are three greatest powers (*δυνάμεις*), but he said that the name of the Ineffable and the world-building God (*δημιουργοῦ θεοῦ*) consisted in one divinity. . . . Therefore he was called by the Egyptians thrice-greatest Hermes."

The thrice-greatest does not mean the triple-greatest, but it indicates a reverence for the number three. The quotation proves, however, that the name Hermes Trismegistos and the trinity doctrine of Hermetic literature must be older than the *Chronicum Alexandrinum*, but there is a strong probability that this notion as well as other ideas set forth in the Divine Pymander of Hermes Trismegistos have been derived from ancient Egyptian sources.

The word "power" or *δύναμις* is also used in the New Testament in connection with Simon Magus whose doctrine of the trinity is remarkable for its purity and philosophical grasp.

The doctrine of the God-child Hor, who was worshipped as a saviour and as a promise of resurrection in Egypt, is very near to the Christian conception of God the Son.

Nothing was absolutely new in Christianity, yet the whole setting was original, and in this new synthesis the traditional religions were purified and their barbarous features were, at least in their practical application, abolished. The more we consider the conservatism of mankind, the better we shall understand that the simplest and most effective way of abolishing ancient rites such as atonement by blood, was by granting their propriety for the past, by claiming them to be fulfilled, and thus abolishing them for good, without denying their justice.

In spite of the great progress which Christianity denotes in history, we cannot fail to see that early Christianity was by no means so ideal as it appears to the Christian romancer, for on the contrary, early Christianity contains many superstitious notions which cannot be reconciled with its great humanitarian and universalistic ideals that form the leaven in the dough of mankind.

But the most important idea of Christianity is the belief in the immortality of the soul, and here we must observe the noteworthy fact that this doctrine is glaringly absent in the Old Testament.

Although the Hebrew canon contains many traditions, notions, and beliefs which can be traced to pagan sources, be it in Egypt or in Mesopotamia, there is a decided contrast between the spirit of the Old Testament and the religious literature of the Babylonians and other nations. The Hebrew prophets and the priests of the second temple are iconoclastic monotheists and haters of myth in any form. Thus, they have rationalised the creation myth, the story of Marduk's fight with the dragon, the legends of Samas the sun-god, changing him into a hero and a judge called Samson, etc.; and in doing this they passed over in silence the belief in immortality, or, wherever it is alluded to, we can still recognise unmistakable hints condemning the pagan conception of life after death.

The objection which is made to the belief in immortality by the canonical authors of the Old Testament seems strange to us, who have acquired the custom of reading the Hebrew Scriptures in the light of the New Testament doctrines, among which the belief in immortality is the keystone of religion. But we shall understand the situation better when we consider the intimate connexion of the belief in immortality among the Babylonians with the worship of Tammuz and Istar. The wailing for Tammuz was a kind of All Souls' day, and the hope of the bereaved for a restoration of their beloved dead to life was based upon myths and celebrated with idolatrous incantations (probably after the fashion of modern mediums) which were an abomination to the sober and rationalist Yahvist.¹

Christianity not only abandoned the Jewish policy of ignoring the problem of immortality, but denotes a decided restoration of pagan beliefs in a new and higher form.

When Christianity spread over Syria, the religious ceremony of lamentation for the death of Tammuz and rejoicings for his revival were changed into Christian festivals, viz., into the lamentation on Good Friday for the death of Christ and on other occasions into a celebration of the death and resurrection of Lazarus. The old

¹ See the author's article "The Babylonian and Hebrew Views of Man's Fate After Death" in *The Open Court*, 1901, pp. 346-366.

pagan belief and even the story itself continued in the imagination of the people, but under different names.

Pagan ideas were critically revised and chastened in the furnace of Jewish monotheism, and the result was Christianity. Thus the saying of St. Augustine remains true that Christianity, the new religion that so suddenly conquered the Roman Empire and crowded out Greek and Roman mythology, was, after all, an ancient institution which had existed from time immemorial.

There are many indications of a fierce struggle between the several forms of Christianity, but the result was no accident. The Jesus-Christianity proved victorious as soon as it became known in the world, first through the Apostle Paul and then in the shape in which it was presented in the Gospels. It rejected everything that collided with its essential doctrines, but assimilated freely whatever could be reconciled with the teachings of Jesus.

Jesus being a historical fact and a human saviour, a suffering man and flesh of our flesh, was finally recognised as the only Christ. All other Christ-conceptions were abandoned and doomed to oblivion. The myths of Marduk, of Tammuz, of Thoth, of Osiris, of Horus the god-son, and further of the great mother of life, the Queen of Heaven, and other pagan stories, are products of deep human sentiments. They are as significant as is the awe inspired by the idea of the creation of the world, the yearning for life immortal, the respect for *das ewig Weibliche*. But literal belief in the myth led to superstition and aberrations which needed constant purification. Thus the Judaistic suppression of these rituals is as much justified as is the broader spirit of reinstating them. The rise of Christianity in Judæa may very well be regarded as a reaction, for it is practically the restoration of the most essential pagan beliefs in a new and monotheistic form. Considering the power of the hope of immortality and the fascination of the more poetic forms of pagan worship, we believe it was an inevitable phase in the history of the religious evolution of mankind. But Christianity, although it was nourished by aspirations which have their roots in pagan soil, is not a mere reversion to paganism; it is after all a new epoch in the history of mankind. Though it contains ingredients which can be traced back to the traditions of a hoary antiquity, it is a distinctly new movement; and the event which becomes its center and dominating factor, constituting its originality, is the life of Jesus.

EDITOR.

LITERARY CORRESPONDENCE.

FRANCE.

M. RENOUVIER, the indefatigable dean of French philosophy, takes up and develops in his *Histoire et solution des problèmes métaphysiques*, of which we shall speak at some length, the history of the philosophy which he broadly sketched in his *Dilemmes* (see *The Monist* for July, 1900), or, to be more exact, "the history of the most general principles of metaphysical speculation, on which all the main topics of philosophy depend." This history, as he understands it, is the search for the elements of idealism which emerge into light from the obscurity or errors of realism, until a stage is reached by a necessary evolution of thought in which the realistic point of view is abandoned by philosophers, who thenceforward openly adopt the idealistic view in its entirety. He offers this to us as a means of access to the neo-criticist doctrine, his own creation, such as it has taken shape in the meditations of a long life.

The name *realism*, by an extension of a scholastic term denoting the attribution of reality to "Universals," is applied here to the method of "realising" concepts, of which philosophical speculation has nearly always remained the slave,—a method which consists in establishing its own concepts apart from all consciousness and in realising them for the imagination as external objects given in themselves.

We know, moreover, that metaphysics is, in M. Renouvier's judgment, of all knowledge the most important branch for man,—that alone to which the name of philosophy properly belongs.

Distinct from logic and pure mathematics, as well as from the physical sciences, it embraces the study of the cosmos in all its generality, and that of the consciousness of self and of its functions, wherever these transcend the purely empirical investigations of psychology.

Substantialism, determinism, infinitism,—these are the doctrines that M. Renouvier impugns; relativism, contingency, the primacy of thought, these are the principles that he champions. His opposition is directed against all modern doctrines, whether confessedly dogmatic or fundamentally skeptical, which may be characterised as “vague pantheism” or “conscious atheism,” and of which the obtrusive formula is, he says, “that the individual and the person are nothing but transitory appearances in the world, and that the universe is the development of the Thing, unknown in itself, manifested in the infinity of time and space.”

The doctrine of *personalism*, which he so ardently espouses, maintains that ideas of “relation” are alone intelligible and are alone capable of intelligibly defining reality, “in that equation of thought and of existence which is truth,”—Relation being the name for Intelligence itself taken in the abstract, that is to say, a name of the Person considered in the totality of the laws which preside over all the modifications of consciousness and which suppose it. The subject and the object in the mental action are the terms of a relation. It is this relation itself that is consciousness or personality; and not only is this relation not unknowable, but it is knowledge itself apprehended at its very source, and *to know* is naught else than to establish relations in accordance with that fundamental relation.

It is incumbent upon the realistic doctrines of the absolute, contends M. Renouvier, to reconcile the contradictories of phenomenon and substance, of finite and infinite, etc. But they can never succeed. The logical principle of contradiction forbids the attribution of reality to every subject that admits of being conceived as a composite of modes, qualities, parts, or distinct terms, infinite in number, indeterminable, and actually acquired or given in all its unities.

Thus, the logical impossibility of an "actual infinity" constrains us to abandon the notion of substance, of extension in itself, so far as it may exist independently or apart from the phenomena of which it is the fictitious support. He would likewise persuade us to reinstate free will in the universe; for without freedom we are constrained to admit the necessary predetermination of all the future, "from which it would follow that the retrogressive course of causes is infinite, and that the sum of the phenomena that have taken place is an actual numerical infinity, the conception of which is self-contradictory."

Philosophy, it is true, cannot demonstrate the reality of free will. But the choice of philosophy between the two hypotheses is a legitimate act of *rational belief*. And, according to M. Renouvier again, the adoption of the principle of rational belief (in place of the *evidence* of the clear and distinct ideas of Descartes) is as justified as it is inevitable: it deprives of all their potency the arguments of the Kantian criticism against the demonstration of the existence of God and of the soul, based on the reasoning that the existence of an idea is not by itself a proof of the existence of the object of that idea. If Neo-Criticism at the beginning adopted the hypothesis of a plurality of consciousness and did not pronounce clearly upon the principle of the divine unity of consciousness at the origin of things, it threw light in the sequel upon this question by the idealistic consideration of the unity of the laws of mind; which unity, being identical with the unity of laws in the empirical world, implies the unity of the mind itself, of which the world is the creation, and thence by induction the unity of the first consciousness.

It would require too much space to point out in detail the different respects in which the idealism of M. Renouvier differs from other philosophical methods. With the two other systems known as idealism, it reduces knowledge to its mental subject. But it is at the same time careful not to disintegrate ideas into elements of which no synthesis can be made, and not to accept as fundamental ideas abstract and general terms, at bottom very complex, which should play the part of principles or of first causes.

From Berkeley, Hume, and Comte it borrows its relativism and refutation of ontological fictions, substances, and forces; from Kant, its theory of critical reason, and its reinstatement of logical synthesis, while rejecting Kant's noumena and his determinism. It criticises the entire empirical school for having misunderstood the characteristic laws of the phenomena of mind and for not admitting the necessity of concepts for the perception of relations and for the formation of ideas, and finally for having excluded will and belief from the elements of judgment.

Descartes is M. Renouvier's real and most logical predecessor, likewise Leibnitz; but not Kant. With Descartes M. Renouvier takes his stand on individual thought, on the *cogito* which involves being itself, and he then passes by the way of belief to the affirmation of the non-ego as an exterior existence, then to the affirmation of the soul and of God. With Leibnitz, he takes the point of view of monadism and pre-established harmony; but he invests the monads with contingency; and he banishes substantialism and absolute determinism, two doctrines, he says, "which alone make of the world of this philosopher an eternal and solidary whole, constituted of an infinity of substances mutually and invariably conditioned, one by the other, and by the eternal act of God."

One of the most interesting points of this new monadism is its conception of the soul. M. Renouvier cannot persuade himself to see in the individual a fleeting sensation only; he proposes accordingly to regard the synthesis of the phenomena of the ego as a law of these phenomena, which is perpetuated in time and does not find its termination in the organic forms to which for the time-being it is bound. We pass, by a sort of induction, from the idea of empirical synthesis to the idea and belief of a function constituted *a priori* at the beginning of things, and that induction is, properly speaking, the definition of the soul,—the identity and the permanence of the ego being understood as that of a function which is really the person, and not that of a substance without possible reality.

A bold view, which singularly transcends the "postulates" of practical reason, is the doctrine of the downfall of a primitive hu-

manity,—a downfall which the psychological laws connected with freedom render possible, if not inevitable, and the consequences of which were the introduction of death into the world, the dissociation of the physical elements, and the dissolution of the original system into a "nebulous state." But humanity equipped with knowledge and power, would be ultimately reintegrated by future revolutions in the world, in the midst of a celestial and reconstituted nature. "It is not society, which is an abstraction, but men or rational individuals, that are bound in apprenticeship to the moral life in society, and consequently on this earth; and this earth can be naught else for them than a point of further departure for another existence across the broad reach of creation ascending to its ancient condition of the perfected organism of the universe and of the complete harmony of forces."

Such is, crudely stated, M. Renouvier's system of rigorous idealism which finds its consummation in his necessarily conjectural cosmogony and eschatology. There is one fact that makes of us all idealists in some measure; I refer to the fact that man knows himself only as mind, or rather that the external world takes in our consciousness the form of the laws of our mind. Another question which immediately rises is, What, rigorously viewed, is the connection between our internal logic and the order of nature? If is clear that we cannot efface from things the marks of our sensibility, nor cast doubt upon the validity of our logic, it is on the other hand no less clear that we cannot consider the conditions of our sensibility and of our intellect as real states having outside of us the same signification, and assign a positive value to all the contradictory or limiting concepts which are the instruments and the means of thought. Thus, for example, while it is a logical contradiction for M. Renouvier to think of the world without a beginning, it is for all men a logical impossibility to conceive a beginning or an end. How shall we extricate ourselves from this difficulty, and how can we justify ourselves in referring from our mental condition—by the denial of an "actual infinity"—a doctrine of "creation" or anything else? Does not M. Renouvier transgress his own method when he seeks to deduce metaphysical affirmations from

the analysis of mental procedures, and if these affirmations satisfy him, have they in them the power of ever imposing themselves upon people who think differently?

On the other hand, the incongruences which subsist between realism and idealism will never prevent men from remaining naïve realists, and it is an act of realism, perhaps, to pass from a causality felt within us to a causality situated without us, to talk of an initial limit to things, etc.

In fine, M. Renouvier has presented us with an instructive and remarkable history of philosophy; it is a splendid effort on his part, and I know of no doctrine that has been so skilfully advocated. But it may happen that the reader, after having yielded to the sway of the author's arguments, will recover himself and not rest content with solutions to which the mark of human infirmity still remains attached.

* * *

Nothing is more interesting than a new subject treated with both originality and brilliancy, and this is the case with M. TARDE's new work, *L'opinion et la foule*, which is made up of three studies bearing the titles: "The Public and the Crowd," "Opinion and Conversation," "Crowds and Criminal Bands." I shall say nothing of the last-mentioned study which M. Tarde reproduces here, because of its having been published prior to the works of other authors, although it is still interesting. The two other chapters are quite novel in their contents. The author seeks first to distinguish the public from the crowd: the crowd, a natural and spontaneous formation, demanding a direct suggestion, a "contact"; the public, an entirely modern creation, distinguished by suggestion "at a distance," and supposing a mental and social evolution far more advanced. Our era, he says, is not, as M. Le Bon would have it, an era of crowds; it is an era of the public and of publics. Crowds preserve their racial character and depend on physical factors, while publics have more independence and variety, and also more homogeneity and coherence. This social division, by groups of theoretical ideas which constitute the different publics, receives from the press a physical accentuation: the public is in the hands

of the journalist, and the latter does nothing more than to expand the ego of certain individual influences. The newspaper, I would say, serves as a vehicle for ideas which it does not create, and not too infrequently it even places obstacles in the way of ideas which it does not happen to adopt. Publics are therefore not less dangerous than crowds; they have with them the common qualities of intolerance, infatuation, and blind domination; they produce currents of impulsion which are always menacing to original creations.

The *absolute* difference between nations, continues M. Tarde, has grown less with the triumph of the press; their *relative* and conscious difference has increased. The book was the creator of the cosmopolitanism of the eighteenth century; the newspaper was the creator of the nationalism of the nineteenth century. The book interests by the abstract and general character of the reasons that it advances; the newspaper derives its interest from concrete actuality.

I have also noted, as M. Tarde does here, the fact of the reversion of modern man to his nationality, but I do not think that it is necessary to attribute it primarily to the power of the newspaper. It may be that the press will favor at some other period the cause of cosmopolitanism, as to-day it does that of nationalism. These facts are not due entirely either to the book or to the newspaper, and they have another meaning. For example, it is to be remarked in the first place that the nucleus of our nationalities has hardened in some measure with time, that the nations have become more condensed and concrete; and again that each nation, by the very fact of this solidification of its nucleus and through the increased facilities of commerce, has ended with acting as a single individual, as an interested individual which derives its force from community of action and feels menaced by whatever restrains or annoys it. As secondary causes for Europe, I would note the effects of the wars of the Revolution and of the Empire, which sowed the seeds of hatred and stirred profoundly the sentiments of patriotism, etc. In France to-day, and despite all, it is not nationalism in my opinion that is the peril and the dominating trait; but it is rather, under this appearance which is so deceiving, the pro-

found dissolution of the collective feeling, the marks of which are only too apparent.

M. Tarde's remarks on "Conversation" are very attractively put; he rightly sees in conversation the most important factor of opinion, and in the newspaper an amplified conversation. But I do not see with him so clear an instance of the "law of propagation of examples from upper to lower" in the fact that correspondence began between kings, popes, and princes, to be disseminated later among the most different strata of the nation. The means of conveying letters were at first at the disposal of the great only, and the interest in writing them existed for this class particularly. The rarer intercourse and travelling were, the more sedentary life was, the less the necessity of writing was felt in family circles, particularly in periods when people were more sociable and conversational. There are examples that we cannot press too much, even though they speak in favor of the best theses.

"Everything reduces to-day to purely psychological groups of states of mind," writes M. Tarde for example, *à propos* of publics. What can the precise meaning of such a statement be? Does it involve a fact that is absolutely new, or that furnishes new arguments in favor of his sociological doctrine? And if it is permissible to contemplate social facts under the conception of an "interpsychology," what effective aid can sociological researches derive from this conception?

But this is a dispute that does not fall within the subject of the present work, and I should not have raised the point had not M. Tarde always shown so great skill in extricating himself from the objections which his critics have delighted in raising against his doctrine.

* * *

M. P. SOURIAU has a justly acquired reputation in esthetics. He attacks the subject, *L'imagination de l'artiste*,¹ with perfect competence. His book is interesting reading and replete with examples

¹ Published by Hachette, Paris. The other works mentioned are published by F. Alcan.

which he has borrowed mostly from modern artists with ingenious analyses and correct appreciations, where no bias calculated to falsify observation is discoverable. He has endeavored to show that the vocation of the artist, and especially his character, rests primarily upon the exceptional development of the imaginative faculties, not exclusive of the faculty of representation, but also the faculty of invention and of creation: *technical* invention, *dramatic* invention, *plastic* invention, or the transformation of the elements furnished by nature, with which the artist composes new images.

On this point alone, M. Souriau diverges widely from the authors who have strenuously endeavored to restrict the rôle of mental activity and creative power in artistic work. In their endeavor to see imagination in the arts only, they have ended by failing to grasp its significance in the other activities of the mind; and they have then passed over to a point of view which is almost diametrically contrary, and they have been in danger of restricting to excess the rôle of this principal faculty of the artist, after having conceded to him the exclusive possession of it.

Predominance having thus been granted to the imagination, M. Souriau has further undertaken to justify the full exercise of it in art, even to the point of exaggerated symbolism for the *representative* imagination, and to the point of completely abandoning the real for the ideal in the *inventive* imagination. This indeed is the real object of his work.

It need scarcely be remarked that by the name of *symbolism* he would have us understand here the resources of expression which the artist seeks in associations, in analogies received or invented, and as variously understood by him. His two chapters on the "Symbolism of Colors" (the correspondence of sensations, sounds and colors, shadings and feelings), and on "Symbolic Figures" (symbolism by typical example, by personification, and by transposition) are the best. He is at pains to exhibit the value and reasons of certain recent efforts of which unfortunately we are in most cases obliged to criticise the temerity or to deplore the lack of success.

As to M. Souriau's doctrine itself, I have already given a char-

acterisation of it. Despite the inevitable divergencies, which sometimes spring solely from the terminology, I am in agreement with him on several cardinal points and upon the general purpose of the whole; although I am less inclined than he to force the artist into the regions of poetry, and I should restrain him far more in pressing his modes of expression.

* * *

The volume of M. M. GRIVEAU, *La sphère de beauté, lois d'évolution, de rythme et d'harmonie dans les phénomènes esthétiques*, contains over 900 pages, and I am unable to give an adequate analysis of it in the space at my disposal. It will be sufficient to point out broadly the very original thesis of the author, which consists in deducing "laws" from a metaphysical classification from the adjectives of language considered as the expression of sensations both as to degree and relationship. I have already described it at some length in Vol. IV. of *The Monist* (page 127), to which the reader is referred. I shall merely recall here the principal result of the method followed by M. Griveau, which is to establish for every sensation, under the name of the law of polarity, a "mean zone," or area of indifference, starting from which the classification extends, diminishing or increasing in quantity in two contrary and complementary directions, and ultimately reaching two extreme stages of pejorative character, between which the "favorable" and "critical" points are situated.

The thesis also involves the following consequences: in the first place, it assumes a sort of relationship or psychological bond of connection between the perceptions of the different senses and the corresponding sensations; in the second place, the laws deduced from the "lexicographical gamut" are, by virtue of this relationship, assumed to be adequate as a foundation for passing judgments on works of art; and finally, there exists, according to this doctrine, so perfect an agreement between our psychological states and external things, that language properly studied will reveal to us a universal law and furnishes with a sound foundation for metaphysical induction.

On the first point, M. Griveau is really interesting; he has

many curious things to say regarding the analogies existing between gamuts of temperatures, colors, musical notes, odors, tastes, and sensations of weight and of contact,—inevitable analogies for the reason that they answer to our unity of organisation, but analogies that have never before found so emphatic and careful expression in language. And it is precisely this in my opinion that is the most interesting part of the work.

As to the second point, I am inclined to think that our judgments of taste cannot always be founded on the theory of "gamuts," and that this theory at least cannot cause us to neglect the other sources of esthetic information. In fact, M. Griveau himself, in asking the classic questions, *Quis? Quid? Ubi? Quibus auxiliis? Cur? Quomodo? Quando?* and under the guise of "circumstances of adaptation," appears to me to reintegrate in his criticism of art the ordinary elements of judgment. In some cases also he has been perhaps under the sway of preconceived ideas which have their source in extrinsic considerations, and I fear that the rules deduced from his principles, if artists should go so far as to adopt them, would seriously hamper their inspiration and the good turns of their imagination.

As to the third point, M. Griveau has many reasons, despite his reservations, for asserting "the perfect conjunction of the physiological laws of being with the laws of physical equilibrium," the necessary "conformity of human nature with external nature (as seen by our minds)." It is true, he tells us, that what is outside of us "in gradation" is presented in us "in opposition"; but the law of polarity, he adds, offers a striking and remarkable identity with the graphic representation of pendulary oscillation; and if everything is ultimately reducible, as he thinks, to the fact of periodicity, then his law of polarity would find universal extension.

* * *

DR. PAUL HARTENBERG has approached with success in a volume entitled *Les timides et la timidité* a subject which has already been treated with much skill by M. Dugas. He starts out from the same definition of timidity that M. Dugas also accepts, viz., that timidity is a complex emotion, a mixture of shame and fear,

which is always and only produced in the presence of human beings, and which is distinguished by being altogether unfounded and without an object; or, as it is usually characterised, by being *false* shame and *false* fear. Being an adherent of the theory which gives the emotional life priority over the intellectual, as well as of the consequences of that theory, involved in the thesis of James and of Lange, he does not conceive timidity as being without emotion; for him it is an "objective, organic emotion, manifesting itself exclusively on the occasion of social relations"; and this is why he refuses to speak with M. Dugas of intellectual timidity. Timidity is an emotional phenomenon, he says, "which is not found in the domain of pure thought": in this domain there are timorous, but not timid, people.

Timidity takes on two forms; the one occasional and intermittent, the other chronic; born of diverse circumstances, it becomes, through repetition and its effect on the mind, a form of character. One becomes really timid in proportion as one becomes conscious of one's timidity.

Dr. Hartenberg has made a careful study of two phases of his subject: one which he calls "the attack of timidity," and the other the character of timid people. He has done this by adducing many interesting details and new facts, and by taking from the classical heroes of timidity, such as Amiel, their most instructive confessions. I should accept, with reservation only, the types taken from the novels of the day, where observation is in great danger of being forced in them. For example, I am not certain that the timid type necessarily hates the active and courageous type (Paul Bourget), nor that he is necessarily impelled by his analysis of himself to egotism (Maurice Barrès). On the contrary, an alliance which seems to me constant exists between timidity and pride. Pride is a defensive sentiment, a re-establishment of the internal balance disturbed by our timidity, "a reaction of personality," as our author well says, "against the discomfort which it causes." But this movement of defense does not necessarily go to the extreme of aggression or of hatred.

"The timidity which is associated with vanity or with pride,"

I wrote years ago *à propos* of the letter of the painter, Paul Huet (*Psychology of the Painter*, page 162), "is always at bottom the fear of not rising to the full height of the estimation in which one holds oneself." Timidity is a sort of pathological garb which clothes temperaments of greatly varying types.

Dr. Hartenberg has rightly gone to the pains of pointing out in a special chapter, which is one of the best in the book, the pathological aspect of timidity. Timidity undoubtedly springs from an exaggerated sensibility, which may be regarded as morbid; but how often has it not risen from the existence of some defect which is keenly felt by the individual, from some hidden malformation, etc.? Much remains to be said, in my opinion, on this delicate subject.

As to the therapeutic methods, we cannot exaggerate their value. Of the direct methods, I attribute most importance to the "exercises of muscular attitudes," as the author has described them. The great remedy will, however, always be, as our author has also clearly seen, to mingle much in life, to live much among men. "If it is good for one to have been timid, it is better to have been cured of it and to be so no longer."

* * *

I am ashamed to have to announce so briefly a work of the erudition and importance of M. L. COUTURAT's *La logique de Leibnitz d'après des documents inédits*. It has often been said that Leibnitz was not properly a mathematician, but rather a philosopher. It would be not less correct to say that he was a philosopher who had the spirit of mathematics, and was the most perfect type of his period, which was so distinguished in the history of philosophy, where metaphysics found its inspiration in mathematics. For Leibnitz every truth is analytical; his logic is deductive; the logician operates with concepts as the algebraist with symbols. M. Couturat shows very clearly that logic occupies the central place in his system; he shows us how Leibnitz was the precursor of modern algebraical logic, and how his genius, which outstripped his times, found itself oppressed by the authority of Aristotle and Euclid, which then overawed all minds.

One of the guiding ideas of Leibnitz was that there existed a perfect agreement between thoughts and things, between nature and mind. A necessary but not arbitrary order was, he thought, discoverable in things, and this order was the objective, although unknown, foundation of the truth. We are at liberty to arrange our symbols as we wish; but the connexion between our symbols must correspond with the real connexions between ideas and subjects; and this independent of our pleasure. Reality, in a word, is penetrable to reason, because it is thoroughly penetrated with reason.

* * *

In this connection, I may mention a pamphlet by M. PIERRE BOUTROUX, *L'imagination et la mathématique selon Descartes*, which constitutes No. 10 of the *Bibliothèque de la Faculté des Lettres de Paris*. M. Boutroux has undertaken this work to determine the function which Descartes attributed to imagination in the mathematical sciences, and also the part which he caused it to play. This question of the imagination is of importance for the reason that it is intimately connected in the thought of the master with that of the relations of the understanding to sensibility, or of the soul to the body. With Descartes as with Leibnitz it is necessary to keep constantly together their mathematical method and the principles of their metaphysics.

In closing, I may be permitted to call attention to a work which would seem to be of much importance, *La philosophie de la nature chez les anciens*, by M. CH. HUIT.¹ It is a work crowned by the Academy, and one of which M. Milhaud, who is deeply versed in this subject, speaks very highly.

LUCIEN ARRÉAT.

PARIS.

¹ Paris, Fontemoing, publisher.

CRITICISMS AND DISCUSSIONS.

AUGUSTUS WALLER'S EXPERIMENTS IN ELECTRO-PHYSIOLOGY.

[On his last trip to Europe during the Parisian exhibition, the editor visited in London Prof. Augustus Waller, whose work on electrophysiology had attracted his attention in various ways. Prof. Augustus Waller, son of the famous physiologist, possesses a pleasant home in a northern suburb of London to which a comfortable and spacious laboratory, originally built by a former owner of the house as an artist's studio, is attached. It is furnished with all necessary apparatus and wired according to the needs of the experiments, with a suspended table counterpoised from the ceiling, easily removed when no longer needed. Here the professor spends his leisure hours in the company of his congenial wife, the most faithful helpmate in his scientific labors. Professor Waller's investigations are of great importance and by no means limited to his specialty, for he takes also a deep interest in the logical principles of scientific enquiry and has promised to furnish *The Monist* a contribution on that intricate problem.

For the facts stated in the present communication of Augustus Waller's work in electrophysiology the editor is indebted not only to the professor himself but also to his wife who has been most obliging in furnishing the necessary data.—
EDITOR.]

"Living nervous matter—all living matter indeed—is 'excitable' and responds to its 'call-from-without' by some form of movement—chemical movement, mechanical movement, electrical movement. An isolated muscle gives sign of life by contracting when stimulated, and we are able by more or less refined methods to show that such contraction is accompanied by physico-chemical changes—production of acid, evolution of carbon-dioxide, rise of temperature, electromotive action. An ordinary nerve, normally connected with its terminal organs, gives sign of life by means of muscle, which by direct or reflex path is set in motion when the nerve-trunk is stimulated. But such nerve separated from its natural termini, isolated from the rest of the organism, gives no sign of life when excited, either in the shape of chemical or of thermic changes, and it is only by means of an electrical change that we can ascertain whether or no it is alive. The eye—the retina—is known to

us as a living organ in our own persons when we see an external object. By various devices of the laboratory we measure quantities of stimulant light and differences of excited sensation. The isolated organ—an entire eyeball, or its isolated retina—is best known to be alive or not by means of its electrical response or silence when it is put to the question by its natural stimulus, light. In these three cases named, the most general and most delicate sign of life is the electrical response."¹

These words give the keynote to Dr. Waller's work in electrophysiology during the last five years. The electrical response to any sort of excitation gives a remarkably precise indication of the state of any living tissue, e. g., in muscle the decreasing and fatigue curve of mechanical contraction is shown to follow closely parallel with the curve of its electrical response.

Dr. Waller has decided a question of psychological interest by means of the electrical response of the eyeball. It is found generally that equal increments of stimulation produce diminishing increments of sensation (Weber-Fechner curve), and he asks the question: Is this disproportion of physiological or of psychological origin? He divides the process of sensation into three parts: (1) the outside phenomenon which causes it, (2) the internal stimulus, e. g., the change provoked by it in the nervous system (in physiological ground), (3) the sensation itself (in psychological ground), and then asks: does the disproportion take place in physiological or in psychological ground? To solve this problem a study is made of the frog's eyeball in which the effect of a known standard of light can be measured on a galvanometer by the electrical change it causes in the eyeball. The magnitude of stimulation was in this case varied by altering the distance from the retina of a standard candle and recording by photograph, the galvanometric deflexion. The curve obtained on the record resembled the Weber-Fechner curve so that, taking the eyeball as the intermediate physiological ground between the external stimulating phenomena and the psychological ground of the sensation itself—the disproportion is in physiological ground, not in psychological ground.

The electrical condition of substance is most conveniently studied by means of the galvanometer which gives a measure of electromotive force, and for all these investigations Dr. Waller has contrived a simple arrangement of instruments easily modified according to the subject studied. The centre of all the apparatus is a keyboard made up of a straight piece of brass on an ebony stand; to this piece of brass are fixed pairs of brass terminals and between each pair the brass is broken and a brass plug or key inserted. By means of this keyboard the electrical circuit can be controlled; one pair of terminals is attached by wires with a demonstrating galvanometer, another is connected with the animal or vegetable substance to be studied, another is attached to the exciting coil or battery or condenser, a fourth

¹"On the excitability of nervous matter, with especial reference to the retina." *Brain*, Part I. 1900.

is connected with a resistance box for measuring the electromotive force of the subject studied, a fifth pair may be attached to a recording galvanometer and by means of the keys any of these objects may be brought into the circuit or shut out from it. The recording galvanometer is kept in a dark room, and the movements of its magnet are photographed, the light passes through a fine vertical slit in a box containing a lamp and is focussed on the mirror of the magnet and reflected on to a horizontal slit in a box containing the photographic plate; the dark slide containing the photographic plate is attached to a clock on top of the box which is arranged to allow the plate to descend quickly or slowly behind the horizontal slit. By this method the movements of the galvanometer can be accurately recorded by photography.

Nerve is now admitted to be practically an inexhaustible tissue. Waller showed that its apparent exhaustion in a nerve-muscle preparation is due to the breakdown of the motor-end plate which is the link between nerve and muscle; but a strand of nerve is practically inexhaustible and a series of electrical stimuli will evoke an even series of responses, first noticed and called by DuBois-Reymond, negative variations because negative to the normal current of injury of the nerve; positive variations are also evoked and Waller points out that it is this extreme negative and positive effect, a breaking down and building up process which causes the inexhaustibility of nerve; on account of its stability he chose nerve as a convenient tissue to study under a variety of chemical conditions, and he adopted the following method.

The sciatic nerve of a frog is dissected out, cut at its muscle end, and left attached to a piece of spinal column by which it can be lifted to avoid injuring the nerve. It is placed on four electrodes in a moist chamber having an inlet and outlet for the passage of gases. Two of the electrodes at the distal end of the nerve are unpolarisable, leading off to a galvanometer, the other two placed nearer to the spinal end of the nerve are exciting electrodes from a Berne induction coil. The nerve is excited once a minute and its electrical response is observed on the galvanometer. At each excitation the galvanometer spot (image of a vertical slit in front of a lamp reflected on a scale by the mirror on the swinging magnet of the galvanometer) swings steadily and its movement is photographically recorded on a sensitive plate which descends by clockwork behind a horizontal slit in a dark box. Taking a strand of nerve as representative of living matter, the effects of chloroform, ether, nitrous oxide, and other anæsthetics were tested on it and found to correspond with their known effects on man and animals. The effect of chloroform is shown by driving air for one minute into the nerve chamber through two wash bottles, the first containing chloroform and the second water; the electrical response is finally abolished. The effect of ether was tried in the same way with the result that the response was temporarily abolished. By means of this method, comparison was made between chloroform and other chloromethanes, nitrous oxide and carbonic acid, and the effect of chloroform at different strengths. Chloroform

was carefully compared with ether and found to be seven times more powerful. By diluting chloroform, the effect of different strengths of the drug was observed and the reaction was found to be most exact and delicate. One per cent. vapor caused partial abolition of the negative variation with complete recovery, two per cent. caused greater abolition with recovery, three per cent. and four per cent. gave still greater effect while five per cent. vapor caused profound anæsthesia with bad recovery, and strengths above this caused death of the nerve. These results correspond remarkably with what has been found to be a safe quantity of chloroform to use in anæsthetising the human subject. This part of Dr. Waller's work has an important bearing on a matter of general public interest, "deaths from chloroform."

Carbonic acid gas gave most interesting results: it was found that the negative variation was diminished or altogether stopped during the passage of the gas, afterwards it was greatly augmented. If expired air or dilute carbonic acid gas, was passed over the nerve the responses to electrical excitation were augmented without any primary diminution. These effects of carbonic acid gas were peculiarly interesting because they led to the expectation of finding evidence of chemical action which has never been observed before in nerve although chemical and thermic changes have been observed in muscle. Any activity in living tissue is accompanied with the formation and discharge of carbonic acid; a small amount of carbonic acid—such as is contained e. g. in expired air—causes a marked augmentation of the negative variation. An isolated nerve might act thus as an indicator of the presence of carbonic acid.

Supposing that carbonic acid was formed within the nerve itself during its excitation, one would expect to find that the negative variation was augmented at first and then gradually diminished as the carbonic acid became dissipated. On this hypothesis Dr. Waller forecast in a diagram on the black-board the kind of tracing that he expected to obtain in the photographic record of the actual experiment. The diagram represented the normal series of equal steady responses to electrical excitation lasting one eighth of a minute at one minute interval, then a descending line during five minutes tetanus and afterwards the series of one minute stimuli augmented in value and then diminishing. The experiment was started and recorded and the development of the photographic record awaited with intense interest. The result was exactly as expected: the photograph came out similar to the diagram and showed evidence of chemical action in nerve, an evolution of carbonic acid which acted in the substance of the nerve just as slight amounts of the gas act on it when the nerve is lying in an atmosphere of dilute carbonic acid.

The record of a series of responses to stimuli in nerve nearly always shows a staircase effect, i. e., each response slightly exceeds its predecessor; this is also due to the stimulating effect of a slight amount of carbonic acid produced at each electrical stimulus. Carbonic acid has an anæsthetic effect on the normal beat of a frog's heart.

Dr. Waller's method has also yielded valuable results in showing the potency of various drugs and determining what part of a salt is the active factor; by what group of atoms it acts; as for instance in comparing the potassium and sodium salts and the chloride, bromide and iodide of potassium, potassium is the active element, not the chloride or bromide and a potassium salt is far more powerful than a sodium salt. There is a great similarity between the action of aconitine and acetic acid pointing to the probability that aconitine acts by virtue of an acetyl group.

From observing the effects of anesthetics upon animal tissue Dr. Waller proceeded to consider their effect on vegetable protoplasm, and in conjunction with Professor Farmer he compared the influence of chloroform, ether and carbonic acid simultaneously on the mobility of nerve judged by its negative variation, while the movement in vegetable protoplasm was measured by the rate of circulation of the chlorophyll bodies. Elodea and chara were chosen for this purpose because of their simple structure; in their cells the chlorophyll bodies circulate round in a processional manner and the rate of movement can be measured under the microscope by counting the number of bodies passing per minute under a cobweb placed in the eye-piece. Carbonic acid gas passed through the little chamber containing the plant, and through the nerve chamber, caused stoppage of the circulation and stoppage of the negative variation; on aerating the two chambers the chlorophyll corpuscles began to move fitfully, then more rapidly than usual and afterwards resumed their normal rate; simultaneously the nerve gave increased negative variations and afterwards a normal series. Ether vapor arrested the circulation temporarily and chloroform abolished movement permanently unless a very weak vapor of two per cent. in air were used when a temporary arrest was caused, thus corresponding remarkably with the strength which Dr. Waller has shown to be safe in the case of the human subject.

In considering the immense influence of light in causing chemical and electrical changes, Dr. Waller tried the effect of light on green leaves to see if light causes any perceptible electrical change and he found such to be the case. The experiment is a most elegant one: the leaf of an iris, laid on a glass plate and partly shaded with black paper, was enclosed in a dark box fitted with a small shutter that can be opened to allow light (either the arc light or sunlight) to fall upon the uncovered part of the leaf on which unpolarisable electrodes are placed leading to a galvanometer, a deflexion of the galvanometer magnet occurs beginning and ending sharply with the beginning and end of illumination and amounting sometimes to .02 of a volt.

During observations on the frog's eyeball Dr. Waller noticed that as an after-effect of any excitation, induction shock or condenser discharge, an electrical current was invariably obtained from the fundus to cornea. This current he called the blaze current; it does not occur in a dead eyeball and he subsequently found that blaze currents are characteristic of living matter and can be utilised as a sign

of vitality. After testing various tissues, animal and vegetable, Dr. Waller made a closer study of blaze currents on beans. On uninjured beans the blaze current is in the same direction as the exciting current. The bean to be tested is placed between two unpolarisable electrodes; after compensating any accidental current which the bean may exhibit so that on plugging and unplugging the galvanometer no movement of the zero is visible, the galvanometer is plugged, the bean is submitted to an induction current or a condenser discharge for a short period, five seconds, the galvanometer is then unplugged and the after-effect observed. On an uninjured bean the after-effect or blaze is invariably in the same direction as the excitation. It lasts a considerable time, five to fifteen minutes and can be described as being a local explosive change in the living matter. In an injured bean the blaze occurs only in the direction from uninjured to injured surface to either direction of excitation but is distinguished from polarisation counter current by its much greater magnitude and duration. A boiled bean gives no blaze current in either direction but only small polarisation counter currents.

Anæsthetics were tested on the blaze currents. To obtain temporary suppression of the blaze currents it was found necessary to choose a sufficient but not too strong exciting current and to anæsthetise rather by ether than by chloroform. Comparison was made between fresh seeds and the same seeds killed by boiling. Fresh seeds giving blaze currents of '01 to '10 of a volt give no blaze currents after boiling but only polarisation counter currents of '0005 to '0020 of a volt. Peas, beans, cherry-kernels, plums and peaches were tested in this way.

A series of experiments were made on beans of certificated years in order to show the deterioration of seeds with age. Beans were obtained dating for ten years back and were compared by the blaze test and the germination test, the proceeding was as follows: the dried beans are soaked in water for twelve hours, then placed in an incubator; the next day each bean was peeled and its radicle carefully broken off and placed between unpolarisable clay electrodes—a current of injury is observed from the broken base to the apex and a blaze current from apex to base in response to both directions of excitation. By testing the radicles prepared in this way, more uniform results were obtained than by taking the entire bean with possible unknown local bruises.

In comparing ten beans of 1899 with ten beans of 1860 the average blaze and germination test of the 1860 gave no per cent. whereas the average blaze of 1899 gave '037 of a volt and the germination was one hundred per cent.

An interesting comparison was made between the blaze current of beans taken for five years from 1895 to 1899. The average blaze of the 1895 beans was '0014 of a volt; of 1896, '0036 of a volt; of 1897, '0043 of a volt; of 1898, '0052 of a volt; and of 1899, '0170; showing how the vitality and consequent germinating power diminish with the age of the seed.

Series of germinations were carried out parallel with the blaze tests and it was found in every instance that those which gave no blaze also failed to germinate.

PROF. ROYCE'S REFUTATION OF REALISM AND PLURALISM.

Professor Royce's recent book, *The World and the Individual (First Series)*, is without doubt one of the most substantial of contemporary contributions to philosophy. The work is avowedly devoted to a systematic consideration of the central problems of metaphysics and epistemology. It proposes, moreover, not only to be comprehensive and fundamental, but irresistible in its logical force. The author's claim for the "absolute logical necessity" of his conception of being (*The World and the Individual*, p. 349) will naturally be accepted as a challenge by any one who ventures to dissent. I undertake in this discussion to evade this same logical necessity by proposing certain miscellaneous criticisms, first of Professor Royce's general method, and secondly of his systematic refutation of realism and pluralism.

A critic approaches Professor Royce's dialectic with some timidity in view of his preparedness for a very aggressive sort of defence. There are three doors which invite the entrance of the dissenter; No. 1, labelled "Realism"; No. 2, labelled "Mysticism"; No. 3, labelled "Critical Rationalism." If you enter any one of the three, "Absolute Logical Necessity" is there waiting for you; and, after being vigorously assaulted, you are led in a dazed condition directly into No. 4, which is the proper abiding place of this monster, and is called "Constructive Idealism." The critic's only hope of safety is to linger outside, and bombard the whole fortification with masked batteries.

Professor Royce's treatment of ultimate problems is essentially epistemological. His classification and criticism of metaphysical theories, as well as his own constructive argument, are based upon a consideration of the ways in which reality presents itself as an object of thought. He is "one of those who hold that when you ask the question: What is an Idea? and: How can Ideas stand in any true relation to Reality? you attack the world-knot in the way that promises most for the untying of its meshes" (*ibid.*, pp. 16, 17). Realism he finds to be a metaphysical theory defining the real as that which is independent of ideas. Mysticism is a definition of the real as that which satisfies ideas by substituting an irrational immediacy. For "Critical Rationalism," the real is empirically verifiable truth. Finally, the author himself finds that to be real which "presents in a completed experience the whole meaning of a System of Ideas" (*ibid.*, p. 61). These definitions show not only that Professor Royce's method is that of reflection upon thought, philosophy's self-criticism, but that the real end of the discussion is a logical one. Although he announces as his central problem, "What is Reality?" (*ibid.*, p. 6), it soon becomes evident that he is not seeking to discover what is real, so much as what it is to be real. In short, it is the conception of being that he is concerned with first and last. The object of study is the intension rather than the extension of that term. This it seems to me is an essentially fruitless metaphysical

method, which found its *reductio ad absurdum* as long ago as the time of Parmenides. Its essential fruitlessness follows from the fact that it is untrue to the original philosophical consciousness. Philosophy is begotten by the desire to know more about a certain definite world that is already evident in part. The philosopher is desirous not of creating but of enlarging knowledge. He would never seek after reality if he had not already found it. The proper philosophical motive is not the self-conscious pursuit after the inner meaning of unconscious utterances, but the desire to know more and better the world that is continuous with the thinker's practical life. The philosophical spirit does not direct a man from the study of real things to the study of the adjective "real," but to a study of more real things in the hope that he may compass all things in some thoughtful belief. He has no need of defining the predicate of existence, nor is this a part of his search; for he is already familiar with that predicate before he can conceive the philosophical problem. I believe that it is only by being true to the original healthy philosophical impulse, that our results will be sane and enduring.

But the fallacy of making the idea of being the object of our reflection, is more directly evident in the fact that such reflection can never reach a definition of its object. A definition that contains the term to be defined, is, of course, no definition at all; and every definition must contain the existential predicate. As Professor Royce himself assures us, every universal proposition cancels certain particular beings; and in so doing it must employ the idea of being. The existential predicate cannot, therefore, be defined; and it very properly does not occur to the ordinary mind to attempt to define it. The man who first enters upon philosophical reflection is already familiar with a great many real things of various kinds. Some of these fulfill his desires, others thwart them; some appear to be independent of his will, some dependent; for some he has appropriate ideas and meanings, others appear only in immediacy, and can be represented only symbolically. But he calls them all "things," or "facts," and they already have about them one common aspect which he recognises implicitly in the crudest activities of his consciousness. As our human being proceeds with his reflection he continues to assume this predicate. His aim is to enlarge, and possibly to unify his experience; that is, to find more real things, or to find certain latent similarities in those he has already observed. His problem is best expressed by the question: What is all reality like? Is it composed of many ingredients after the manner of his present experience? Is it reducible to some one of those ingredients? Or is it all composed of some neutral element analogous to certain of those ingredients? He is interested in the composition of the real, and not in reality as an hypostasised aspect of his experience. The true classification of philosophical theory will be that which states the different answers to this objective inquiry. Realism, Mysticism, Critical Rationalism, even Constructive Idealism may be so defined, and made to assume the form of hypotheses about the composition of this world—a world whose reality is accepted in the beginning as an aspect of the preliminary experience of

each thinker. By such definitions Professor Royce would not only have used the first three of these titles in a manner more acceptable to their several proprietors, but would have given his own doctrine greater vitality and concreteness. He has abstracted in the case of each of these historical doctrines the conception of the relation of the real to consciousness, and defined the doctrine in terms of it. But independence, fulfillment and validity are supposed by realists, mystics and critical rationalists respectively, to inhere in a being that is given, and that possesses a rich qualitative character apart from this specific aspect. This aspect is not defined as constituting the existential predicate, but as being part of a whole existence and sharing the existential predicate with the remainder. The mystic, e. g., in asserting that the real fulfils thought by substituting an irrational immediacy, would not mean that this aspect of the real is synonymous with its reality as such. The *immediacy* is the real, and its reality-aspect is its *givenness*, its *actuality in experience*. The claim of this immediacy to be a synthetic and all-comprehensive reality rests upon the supposition that in a certain unique experience you may see all reality to be so encompassed. The normal human experience lacks not actuality, but completeness and unity. "The real fulfils," and "reality is fulfilment," are not convertible expressions. Herein is a subtle ambiguity that is constantly threatening Professor Royce's discussion. The ambiguity is due to the substitution of a psychological account of the philosophical activity for that activity itself. "My intellect desires the real." "The real, therefore," says Professor Royce, "is the object of your intellect's desire." Now the real which your intellect desires, and the real defined entirely in terms of that desiring, cannot be the same. The desiring cannot be without an object other than its own desiring. The intellectual inquiry assumes the possibility of an answer, and that answer cannot be a repetition of the question itself. If thought is to be a quest at all, it must be in quest of something other than its own quest; otherwise a man may lift himself by his bootstraps. That of which it is in quest, it already assumes to be something, to be a given fact; otherwise it could not figure as an object of thought. So it means nothing to define being as fulfilment, or say that to be means to fulfil. That which is, must *be* in order to fulfil; and its being is implied in its fulfilment, and cannot be identical therewith.

In consideration of these facts, it seems to me that we are safe in standing by the common-sense assertion that being is an irrational term, contained as an aspect of the first experience, and connoting nothing but synonyms. Moreover I believe that it is fair to say that Professor Royce, in other parts of his own discussion, not only recognises this ultimate fact-aspect of things, but makes a very generous use of it. This same irrational, so impossible at a time when logic and epistemology are in control, is nevertheless called upon to assume the very dignified rôles of Will and Freedom. But for the present let us turn to an examination of our author's criticism of realism. Our discussion up to this point has already precipitated the issue, since realism is primarily an outgrowth of that common-sense reference to

an irrational factor in reality which we have already defended. Professor Royce's account of the matter is of great importance, not only for the sweeping character of its criticism, but for the part which it plays in preparing the way for his constructive argument. He so orders his dialectic as to involve pluralism in the same logical ruin that befalls the realism of his own defining, and the Absolute is already in sight when this encounter is over.

Since Professor Royce has himself defined the realism which is the opponent of his dialectic, it behooves us to discover whether that opponent is so truly representative as to make the battle one of genuine strategic importance. There is to be noted, in the first place, a very serious ambiguity, arising from the author's failure in the early part of the discussion to specify his use of the term knowledge. Realism, he announces (*ibid.*, page 66), "asserts that . . . independence of your knowing processes, and of all such knowing processes, as is your seeing, i. e., of all actual or possible external knowing processes whatever, is not only a universal character of real objects, but also constitutes the very definition of the reality of the known object itself, so that to be, is to be such that an external knower's knowledge, whether it occurs or does not occur, can make no difference, as mere knowledge, to the inner reality of the known object." Elsewhere (*ibid.*, p. 100) Professor Royce illustrates his definition by reference to Locke, and accepts as typically realistic the latter's account of his Primary Qualities: "The particular bulk, number, etc., of the parts of fire, or snow, are really in them, *whether any one's senses perceive them or no.*" So far it would seem that he means by realism the proposition that reality is essentially independence of any form of consciousness. Such a definition, however, represents neither common sense nor any historical type of philosophy. Even materialism, which it approaches most closely, has invariably selected as the essence of reality some definite substance, such as the water of Thales, and the ether of some contemporary "Monists"; or certain spatial predicates, as in the case of the more refined materialism that has issued from Galileo and Descartes. Materialism is a positive ontology, and not a negative epistemology. Nor has common sense ever regarded as essentially real that which might exist apart from consciousness. Common sense has always posited the reality of conscious beings, together with the subjective content of their minds, and has recognised consciousness as in this case identical with existence itself.

But Professor Royce, in a later passage (*ibid.*, p. 96), gives to realism a very much more liberal interpretation. "One could be a realist in his definition of Being," he says, "and still insist that all Being is in its nature entirely psychological." He intimates his doubt as to the possibility of consistently working out such a theory, suggesting the difficulty of dealing with certain relations; but realism evidently no longer means the definition of reality as independence of consciousness. Schopenhauer, with his conception of will, and Berkeley, with his spirits, would be realists in so far as they conceived it to be impossible adequately to represent these entities in idea; and one would be liable to a similar charge who

maintained that, e. g., *A*'s selfhood was indifferent to *B*'s thought about it. Professor Royce now explains his definition as follows: "You, for instance, as a conscious mind, might be viewed by a realist as a being that he would call real in his sense. That assertion, if made by a typical realist, would simply mean that the contents of your mind, although present within your own consciousness, are real without regard to whether anybody else knows of your existence or not." (*Ibid.*, p. 96.) Realism now means that it is of the essence of reality to be independent of such representative ideas as may be referred to it. The entity may be an object of experience. If so, there is a primary order of experience in which it is real, and which is to be contrasted with a secondary order of ideas, having a purely symbolic and representative value. The real may be essentially irrational, or accidentally irrational, i. e., capable of being rationalised; but its being is in no sense derived from ideas.

This conception of realism corresponds more nearly with common sense, in so far as there can be said to be any utterance of that authority in this particular matter. Common people are not epistemologists, and realism is an epistemological theory. Hence it is doubtful whether there is any such thing as the "naïve realism" so commonly referred to. But there are certain general practical postulates which are capable of a realistic interpretation. The common man assumes that things, for the most part, "stay put," i. e., may be depended upon to endure for some period of time. At any rate they are regardless of his will, unless he can bring other things to bear upon them. He must reconcile himself to them, even if he is to change them. They are what they are, for better or for worse. He is liable to respect the independent reality of other human beings in proportion as they exhibit a similar indifference to his will. This same presumption applies in the case of his *thought* about things. He imagines what they may be, names them, defines them, asks about them, constantly taking for granted that if any discrepancy between them and his thoughts is revealed, *he* must give way. The facts are stolidly indifferent to his gropings, and unsympathetically "stare him in the face," when he finds them. The term "fact" signifies more of reality for the common mind than any other popular quasi-epistemological expression, and as ordinarily employed it stands for the givenness of the real. We have it "on our hands." Possibly the tacit realism of every-day life might be summed up by the saying: "It is a *situation* and not a theory that confronts us." Or, as Professor Royce well says in another connection, "Necessity comes home to us men through the medium of a given fact" (*ibid.*, p. 257).

We may now state a definition of realism that seems to me to be representative of both philosophical realism and common sense; and to be the most consistent statement possible of what Professor Royce has named realism in his account. The realist believes reality to be a *datum*, a *somewhat that is given independently of whatever ideas may be formed about it*. According to the realist, the real has a *locus*, a *habitat*, whether or no within some individual experience.

Here the real primarily *is*, and is, regardless of whatever secondary meanings, symbols, names, relations, or ideas of any kind may be referred to it. The realist conceives of a *thing*, and *thought about that thing*. They are two orders, not necessarily two kinds; for the thing may be a thought. But in every case the thing of the first order is indifferent, as far as its being is concerned, to the thought of the second order; which may reveal, but does not constitute or create its object. Realism being so defined, has Professor Royce succeeded in overthrowing it?

The first step in his argument is to inoculate realism with pluralism. It should be evident from what has been said, that the realist has in mind a very definite relation between the idea and its object. The real may be found or interpreted by ideas, which are nevertheless adventitious as respects its being. The idea, on the other hand, is strictly dependent upon the reality, being derived therefrom, pointing thereto, and tested thereby. This relation may present difficulties, but the realist means it, and would never recognise as descriptive of himself, Professor Royce's statement of the *absolute mutual separateness* of idea and object. Nevertheless our author argues that this mutual independence is the logical outcome of the realist's position as stated above. Let us examine the argument.

In the first place, as we have seen, realism defines the real object *o* so as to be independent of the idea of *o*. One may suppose the idea of *o* to vary or to vanish; and there is no relation between the two such as to compel a corresponding change in *o*. But the idea of *o* is itself a real object, and upon the realistic basis must therefore be similarly independent of—what? Professor Royce says, of *o* (*ibid.*, pp. 265, 266); but this is obviously fallacious. The realist would contend that the *idea of o*, as a psychological entity, was independent, not of *o*, but of another idea, the idea of *idea of o*. So this proves no reciprocal independence.

But in another connection, we are told that, "The idea will have to be, in its own separate essence, independent of the object. Otherwise, by merely examining the idea, taken by itself, you could prove something about the existence of its object" (*ibid.*, p. 119). The contention is, supposedly, that if the idea were in every case in some way related to an object, the presence of the idea would be a sure indication of the reality of its object; and the being of the object would so be logically dependent upon the existence of its idea, which, according to our author, would contradict the realistic hypothesis. Now how far is this argument really cogent? Let us suppose the idea to be in every case dependent upon an object. Consider any cognitive idea, e. g. the idea *o*, where by hypothesis the idea is derived from *o*. The idea has a certain content, *o'*, and a certain objective reference. *o'* may be attributed to reality in general, or in particular. If to reality in general, then its object, *reality in general*, is, it is true, deducible from it; i. e., finding the idea of *o*, you may be sure of reality in general. Or the idea of *o* may attribute *o'* to reality in particular. In this case reality in some particular is deducible from the presence of the idea of *o*; i. e. the specific locus to which *o* is attributed, may be assumed to exist. That locus is defined by its context, and the experienced self

of the moment is a part of that context. But has the realist's original position meanwhile been abandoned? Has reality become dependent upon idea, when reality in general, or a certain direction from the experienced self of the moment, is made a certainty by the presence of an idea? We may apply Professor Royce's own test. Under the circumstances described, no change in *o* need follow from a change or the disappearance of the idea of *o*. Two kinds of change may be considered, (1) eternal, and (2) temporal. (1) Omit the idea of *o* from the universe, and only my deduction of *o* is impaired, since, by hypothesis, the idea of *o* was originally derived from *o*, and not *o* from its idea. (2) Cause the idea of *o* to vary or disappear in time, and *o* does not necessarily change; for *o* need not be sensitive thereto any more than a body to its shadow. On the other hand the annihilation of *o* will inevitably affect its object. (1) Omit *o* from the universe, and you destroy the idea, since the idea was by hypothesis derived therefrom. (2) Cause *o* to disappear in time, and you destroy the idea, since you destroy the self, from which *o* was defined as a direction. *o* may, however, *change* without a concomitant variation of the idea of *o*; or the idea may have inaccurately represented *o* from the beginning. These will be the cases of erroneous ideas, to which our author refers. Such have an objective point of reference, to which they ascribe a content that does not correspond to the actual experienced content. Thus it is possible to state the realistic hypothesis in such a way as to involve the relation of an idea to its object without vitiating the independence of the object; or, so as to specify that the object shall be independent of its idea, without implying a similar independence on the part of the idea. The importance of this analysis consists in its defense of realism against Professor Royce's imputation of abstract pluralism. The realist means a certain definite kind of relation between idea and object. The most important step in Professor Royce's dialectic is the reduction of that relation to absolute mutual aloofness. The writer finds no other proof to warrant this step than that which has been examined above. For the sake of clarifying the issue let us formulate as representative examples as possible, to express the realistic position at this stage of the discussion:

1. An idea of the State House in Boston. My idea has a content derived from actual experience, and consisting mainly in visual memories. I attribute this content to a certain locus in human experience. That locus is defined by spatial and temporal direction from my present moment of experience, and by contiguity with other remembered and imagined moments of experience. My idea may refer to the past state of its object, in which case I judge that were I to retrace my own experience back from the present moment, I should meet with a definite fulfilled expectation. In this case my idea is incorrect in so far as such expectation would be thwarted. The degree of surprise would indicate the degree of error. On the other hand, my idea may refer to the present condition of the State House. In this case, I judge that were I now standing in a certain place in Boston, I would not be at a loss, but would recognise my surroundings. Meanwhile the State House

may have been burned to the ground, in which case my error would consist in the hypothetical defeat of expectation, the failure of my present mental content to be such as to prepare me for the actual experience to which I refer. My idea, it is seen, has been derived from the actually experienced object, and is not possible in a universe without the individual State House in Boston. Were the object to become in time absolutely nothing, my self and my idea must disappear with it. For the object as referred to is a direction from the self; and one direction cannot be lost without the loss of all direction, or that orientation upon which self-conscious existence depends. Nevertheless the State House may have burned down without my ever knowing it; i. e. a relative change of content may have taken place, and have falsified my idea without at the same time changing it. On the other hand, the main realistic contention holds, since the waxing and waning of my idea has no effect upon the Boston State House, and a universe without my idea might still be a universe containing the Boston State House.

2. The realist's idea of the world. Professor Royce has used this same illustration in connection with the specious argument cited above. He maintains that since the realistic ideas of the world are real objects, they must be as regardless of the real world as the real world is of them (*ibid.*, pp. 135, 136). But it is perfectly possible for the realist to hold that his philosophy, though as content of his conscious life it is independent of what ideas others may form about it, is nevertheless as idea entirely derived from the actual world of experience. The realist's philosophy will consist in a set of ideas referred by him to the totality of experience. Their truth will mean their power to prepare their thinker for an experience indefinitely enlarged or prolonged. They will be erroneous in so far as they are baffled when confronted by experience, or in so far as such a perplexity is possible.

In such terms as these the realistic position may be stated without involving it in an absurd and self-contradictory statement of the absolute mutual independence of idea and object. Such a mutual independence once admitted, it is very easy, as Professor Royce does, to show that it prevents the idea from being an idea at all, since it could not refer to an object, or to the standards of truth and error.

Though we decline to assent to Professor Royce's reduction of realism to abstract pluralism, the next stage in the argument must be examined in the interests of pluralism itself. Assuming that he has reduced realism to a statement of the absolute mutual separation of idea and object, he considers such independence of many beings as representative of pluralism, and proceeds to attack that general thesis. At the outset let me enter a general demurrer to the way in which our author conducts his case. In the main he takes for granted that the burden of proof lies with the pluralist, and demands of him that he shall *prove* the existence of many absolutely separate beings. Now the pluralist, having empirical predilections, very properly refuses to make any such effort. He is concerned neither with abstract separateness, as the monist defines it for him, nor with proof, as the

rationalist defines it for him. He has found the world to be many. He has encountered, e. g., other selves, many of whom think quite differently, and all of whom feel quite differently, from himself. Such selves are not absolutely separate; on the contrary their community is the very source of their mutual discovery. He alleges that there is in the world just so much unity, and so much difference, as there seems to be. His proof of it is the seeing of it. Professor Royce, on the other hand, admits by the whole character of his discussion, that he is undertaking to demonstrate; and that he is undertaking to demonstrate the necessary reality of a transcendental unity. The burden of proof lies fairly and squarely with the transcendentalist. The importance of this demurrer is twofold. In the first place, it makes plain the futility of setting up for controversial purposes an absolute pluralism, which no other than a transcendentalist could ever have conceived, and the destruction of which injures nothing so much as the prestige of his own method. In the second place this general objection will very largely destroy the cogency of our author's specific arguments, of which we may consider three.

1. Applying first the empirical test, Professor Royce challenges the pluralist to find in the world any cases of objects that are mutually independent. For some reason he weakens his defiance by limiting such objects to "any two physically real objects which are so independent of each other that no change in one of them need correspond to any change of the other" (*ibid.*, p. 125). As respects "physically real objects," one will readily admit that in defining them so, Professor Royce has already precluded the sort of independence he assigns to pluralism. It is ridiculous to demand of the pluralist that he find two objects so independent, that he cannot imagine one to influence the other; and it is more ridiculous to posit that such objects shall be assumed to be "physical," i. e., already defined as in space together. The pluralist would naturally reply that, as Professor Royce allows, he is not concerned in this particular argument with hypothetical possibilities, but with what he *finds* to be the case. He finds physical objects that, so far as he knows, do not influence one another. The actual variations of the one, as far as experience informs him, effect no concomitant variations in the other. More notable for their indifference to one another are the feelings and ideas of different subjects. In innumerable cases, *A's* idea *x* has been correct or incorrect, has come into existence or ceased to be, with no effect upon *B's* idea *y*; at least such is the testimony of experience. And we can conceive that in our world such objects should be eternally independent of one another, so that the changes of one should never in any way affect the other.

To be sure, we cannot conceive two objects to be so related that we cannot *conceive* them not to be so related. In the case of the independent objects that we experience or imagine, there will always be for our knowledge the possibility of a change to a relation of dependence. I can imagine *a* and *b* to be so sundered that no variation of one as a matter of fact ever effects the other. But I cannot describe that independence so as to preclude for my imagination the possibility of some

event that may bring a and b into a relation of dependence. And here Professor Royce would contend that this theoretical possibility of interaction, is itself a bond of union. Given a and b , admit that though at present variations of one do not affect the other, they may conceivably come into such a relation of mutual affectibility; and you have already destroyed their independence. But why so? On the contrary, you have merely expressed your inability to state that a and b may not at some time change their relation. That possibility, which Professor Royce holds to be a part of the being of a and b , is merely a confession of one's ignorance as respects what the future, or the entire universe, may contain; and by the realistic hypothesis, this does not necessarily concern the objects.

There is great danger of confusing the contention just stated with what is distinctly another logical issue. "Possibility of definition," and "definition of a possibility," are obviously very different propositions. To be unable to define a and b so as to prevent their theoretical modification to a relation of dependence, is not the same as to define a and b as actually capable of entering into such a relation. So we have not yet raised the question as to whether a and b could be actually independent, and at the same time potentially dependent. This question of the possibility of change from independence to dependence is specifically discussed in the next stage of Professor Royce's argument. But up to this point the pluralist may insist that he finds objects which do not actually affect one another in their present observed changes, and that he can conceive the possibility of the permanent or eternal separateness of such. The burden of proof surely lies with those who deny the actuality or the possibility of such objects. For experience, though it testifies to the connectedness of much of reality, testifies to no ultimate all-comprehensive unity.

2. "Assuming the real world . . . to contain many mutually independent beings," says Professor Royce, "I will prove" that "the many different real beings once thus defined can never come to acquire or later to be conceived as possessing any possible real linkages or connections, binding these different beings together; and so these beings will remain forever wholly sundered, as if in different worlds" (*ibid.*, p. 127). Assume a and b , so defined that one might remain unchanged if the other vanished. Could they ever become so related as to be in any way dependent upon one another? Such a change would involve the entrance into the world of a new fact, e. g., a influencing b . Can this fact come to be, and yet be purely adventitious as respects a and b ? Professor Royce argues that if the new fact were purely adventitious it could not constitute a link. The argument is much clearer if we reverse the order. Suppose a to be influencing b ; then a and b could never have been indifferent to one another's existence. For had a at any previous time disappeared, the event, *influenced by a ,* would have been eliminated from the future of b . In other words, if you define an object b so as to affirm that it sometime will be changed by another object a , you have already defined b as affect-

ible by a , and so not independent of it. In this sense, once dependent, always dependent.

So far I admit the cogency of the argument. But the real value of the conclusion is determined by other considerations. In the first place, as has been remarked, the pluralist is not necessarily concerned with the reality of objects that are not in any way subject to alteration by one another. There may still be such independence of origin and such independence of being as refuses to be embraced in any closer unity. Again, the pluralist is not necessarily concerned that the absolutely independent objects, if there be such, should ever become dependent. Finally, he will still deny the validity of the more extreme pretensions of our author's argument. For Professor Royce has undertaken to prove that such independent beings as make no difference to one another can never acquire *any sort of relation*, but must remain "wholly sundered, as if in different worlds." This conclusion would follow from the above argument only in case we assumed that all relations involve dependence; and such is by no means either proven or self-evident so far in our discussion.

Let us suppose, e. g., that a and b are thought together by a finite consciousness M , so as to give rise to the new psychical fact, the idea $a'b'$. They might still have been once so independent of one another that the vanishing of one would not affect the other. The non-being of a would have made $a'b'$ impossible, but that would make no necessary difference to b . For by the realistic presupposition, b is indifferent to $a'b'$, i. e., to thought about it. What b is and what b becomes, is by no means necessarily altered by what may be imputed to it of relation to other objects. To one who objects that we have not linked a and b but only their ideas, it is sufficient to reply that they are at any rate in the same world of thought and possible experience, and that they have obtained some sort of connection that they did not originally have. But Professor Royce might still reply that a and b defined as independent, could possess no such resemblance as that which would be necessary in order to make their comprehension in one thought possible. This is the substance of his third criticism of the "independent beings."

3. "The many real beings thus defined can have no common characters; they are wholly different from one another" (*ibid.*, p. 127). Suppose two objects a and b to possess a common quality Q . Could they at the same time be defined as independent in the sense that one could vanish without affecting the other? Professor Royce replies in the negative, alleging that if a were to vanish with Q in its possession, b would necessarily lose Q , and so change. Or, to state it differently, if a were to vanish with Q , and b were to persist with Q' , Q and Q' could not be the same. The proposition is simple enough upon the supposition that for the realist similarity involves identity. Common sense would without hesitation attribute any quality such as Q to quite separate objects such as a and b . But even common sense would not conceive of Q as an identical entity leading a double life. On the contrary, similarity is commonly regarded as dependent upon the judgment of

a synthetic consciousness. One finds a resembling b in some particular, Q . In turning from a to b one experiences recognition as respects one part of the content of b . Now cannot a and b be independent, and yet similar in this sense? As has already been maintained, togetherness in consciousness may be adventitious as respects the being of the objects so experienced. Then it is no part necessarily of the being of a that it should be found to be like b , or different from the indefinite number of other objects with which conceivably it might be compared.

But would not the very possibility of such comparison indicate some sameness or community of character as already present? If a and b can be thought together must they not already be alike in that they are members of the same spiritual universe? Or, supposing finite consciousness M to compare a and b , were a and b not previously alike in that each was capable of becoming a part of M ? We must reply in the affirmative, and would seem to be compelled to resort to some other comparing consciousness, which if it were not an eternal and all-embracing consciousness, would refer us in turn to another and so on *ad infinitum*. It must be admitted, then, that Professor Royce is upon us with his Absolute unless we can define similarity apart from actual joint presence in consciousness. And this issue is of the greatest strategic importance, because it involves the fundamental epistemological argument which is elaborated in the later portions of the book. It is there maintained that an idea can have an object, and be true or false, only when the intention of the idea is noted by a consciousness that embraces the totality of the world, and can observe the degree to which the idea attains its end. Must the fact of truth or error, or the fact of similarity, be contained in one individual synthetic consciousness?

The pluralist will reply finally, that it is perfectly legitimate to define sameness in terms of possible experience. Suppose a and b to be alike in the particular Q_1 when compared in the consciousness M . Before this observed relation there was that which made it possible; a in itself possessed a definite character; and b in itself a definite character. Whoever experienced a , experienced Q_1 ; whoever experienced b , experienced Q_2 . The sameness of Q_1 and Q_2 consisted in the fact that should a and b be compared, just this likeness Q , might be noted. Moreover this fact of sameness was not a mere possibility of experience, but existed in the experienced content of a and b severally. When a and b are actually compared, there is, to be sure, in Q a new fact of *observed* sameness. But such new facts cannot be explained away on any hypothesis. That finite individual M should come to see the resemblance between a and b denotes a new fact in the universe; a fact previously contained potentially in the separate elements here synthesised.

Similarly, one may contend that the truth or falsity of an idea can be construed as the hypothetical fulfilment or defeat of expectation. Subject M , holding idea x of reality, is mentally so constituted that were he to experience the content of that locus which his judgment designates as direction from himself, he would experience some degree of surprise or recognition.

A far more careful examination of the query, "What is truth?" as well as an examination of the problem of individuality, would be necessary before Professor Royce's challenge could be adequately answered. We have considered his refutation of realism and pluralism, in so far as it is nominally concerned with these theories. Thus considered, the argument is a fragment, since, according to our author's plan of campaign, realism and pluralism are to appear again as "almost persuaded," under the title of "Critical Rationalism." But it must suffice to express the belief that the general line of defence here projected could be maintained to the end.

I hope that these arguments may remind some who are of an empirical turn of mind that the great critical epistemology of a *priori* idealism is as yet unanswered; and at the same time suggest that it is not unanswerable. The writer of them arrogates to himself no little virtue for having turned from the tempting ethical and metaphysical quarry contained in this volume of transcendentalism, to an attentive examination of its proof.

RALPH BARTON PERRY.

SMITH COLLEGE, NORTHAMPTON, MASS.

BOOK REVIEWS.

LEIBNIZ'S DISCOURSE ON METAPHYSICS, CORRESPONDENCE WITH ARNAULD, AND MONADOLGY. With Introduction by *Paul Janet*. Translated by *Dr. G. K. Montgomery*. Chicago: The Open Court Pub. Co.; London: Kegan Paul, Trench, Trübner & Co. 1902. Pp., xxi, 272. Price, 35 cents (2s.).

What a marvellously gifted man Leibniz was! The king of Prussia truly said of him, "He represents in himself a whole Academy;" and George I. of England was quite justified in saying, "I count myself happy in possessing two kingdoms, in one of which I have the honor of reckoning a Leibniz, and in the other a Newton, among my subjects." A brilliant mathematician, contesting with Newton the honor of discovering the Calculus; a gifted psychologist and epistemologist, equalling and surpassing, in his *New Essays*, Locke's famous *Essay*; a profound theologian, writing the most famous book on *Theodicy* which has ever been printed; a learned historian, producing a history of the House of Brunswick commended by Gibbon himself; a far-sighted statesman and diplomatist, honored at several of the most powerful courts of Europe; a great philosopher, founder of modern German speculative philosophy and worthy to be named with Kant himself; and, withal, an eminent scientist, "a man of science, in the modern sense, of the first rank," as Professor Huxley calls him,—these are a few of his claims to consideration.

The profound and quickening thought of this most comprehensive thinker since Aristotle was never presented by him in a more simple and untechnical form than in his *Discourse on Metaphysics* and the correspondence with Arnauld relating thereto. These together with the *Monadology*, the last systematic presentation of his philosophy written by him a quarter of a century later, are here, at a nominal price, made accessible to the general reading public and to university students. If one will read these letters between Leibniz and Arnauld, and then the *Discourse on Metaphysics*, and finally the *Monadology*—and that is the best order in which to read the book—one will be introduced in the simplest and the best possible way to Leibniz's philosophy. The *Discourse on Metaphysics* is probably the best account of his philosophy which he ever wrote. His views underwent but little modification between the writing of the *Discourse on Meta-*

physics and the writing of the *Monadology*. The only important difference is in the introduction in the latter of a more artificial terminology.

Dr. Montgomery's little volume is adorned by a picture of the famous monument to Leibniz near the Thomas-Kirche in Leipsic, and enriched by a translation of the late Prof. Paul Janet's admirable *Introduction* to his *Œuvres philosophiques de Leibniz*. The type and paper are exceptionally pleasant to the eye; and altogether the translator and the publishers deserve the thanks of all lovers of stimulating thought and of all teachers and students of philosophy.

This book belongs to a series of inexpensive issues of philosophical classics. The series already includes Descartes's *Discourse on Method*, Hume's *Enquiry Concerning Human Understanding*, Hume's *Enquiry Concerning the Principles of Morals*, Berkeley's *Principles of Human Knowledge*, Berkeley's *Three Dialogues Between Hylas and Philonous*, Descartes's *Meditations and Selections from the Principles*, and Kant's *Prolegomena*; and other similar works are promised. The series puts the masterpieces of philosophy within the reach of all who may care to read them; and it places at the disposal of teachers of philosophy and of the history of philosophy a most valuable adjunct to their teaching, in the form of easily obtainable and inexpensive collateral reading to put in the hands of their students. In publishing these books the Open Court Publishing Company is doing a most commendable educational work, which deserves the heartiest encouragement from the reading public and from our colleges and universities.

GEORGE MARTIN DUNCAN.

Yale University.

ETHIK. Eine Darstellung der ethischen Prinzipien und deren Anwendung auf besondere Lebensverhältnisse. Von Dr. Harald Höfding, Professor an der Universität Kopenhagen. Zweite Auflage der deutschen Ausgabe. Unter Mitwirkung des Verfassers nach der vielfach geänderten und erweiterten zweiten dänischen Ausgabe, übersetzt von F. Bendixen. Leipzig: O. R. Reisland. 1901. Pages, xvi, 618.

Professor Höfding's *Ethics* has reached its second edition in both the original Danish and the German translation. The second edition does not in any essential point differ from the first one. Professor Höfding has adhered to his principles, which may be characterised in his own words as "an ethics of welfare." *Welfare* in his language is practically the same as the principle of Utilitarianism. Professor Höfding defines it in terms of pleasurable feelings, the weak side of which has been the subject of a discussion between him and the editor of *The Monist* (Vol. I., No. 4.)

Leaving alone the most point of the ultimate principle of ethics, which in the present case has very little influence upon the execution of the work, Professor Höfding's *Ethics* exhibits sound judgment and a combination of a respect for such institutions as the State, marriage, the dispensation of law in the courts, etc., with

a progressive spirit that would not allow traditions to bar out the aspiration for improvement.

The whole material of the book is divided into three parts: (1) The Condition of Ethics; (2) Individual Ethics; and (3) Social Ethics, which last is subdivided into: (a) The Family, (b) Society, (c) The State.

The first part, "The Condition of Ethics," discusses the following topics: (1) Positive morality and scientific ethics; (2) Theological and philosophical ethics. Professor Höfding denies that the principle of authority is tenable, declares that philosophical ethics is independent of theology and metaphysics, and suggests that Christian ethics in its original purity is non-theological. In discussing the valuation which is characteristic for ethical judgments, Professor Höfding distinguishes between the motive which prompts the performance of a certain act and the criterion by which it is judged; the former is subjective, the latter objective. He discusses the principle of Aristippus, that every moment of life is sovereign, and shows how higher organisation leads to a complicated interrelation of the different moments. The same is true of the individual, which is interconnected with its fellows by sympathy, the latter being the basis of the ethical sentiment. The principle of welfare, which appears as the ethical ideal, is not merely subjective, but also objective; and the objective ethics is to be divided into individual ethics and social ethics.

Speaking of conscience, Professor Höfding says that where it acts as instinct the individual does not as yet know what it is about; where it acts as an impulse, the individual has a dim notion of its final aim; and when it appears as practical reason, it has created a clear conception of ideals and rules (page 76).

As to the question whether one can do more than one's duty, we are told that man can do more than may be demanded of him, according to a reasonable expectation; but he can never do more than fulfil the request of his inmost conscience.

In the next chapter, we become acquainted with six different definitions of freedom of will: (1) As an expression from causality, generally known as indeterminism; (2) As an absence of external compulsion; (3) As an absence of internal compulsion; (4) As an ability to do something, viz., the endowment with the faculty and power of performing certain acts; (5) It may mean the liberty of choice in case one has the option between two or more possibilities; and finally (6) it is used in the sense of a will determined by ethical motives. Professor Höfding uses the term *freedom* only in the first sense, and consequently adopts the principle of determinism; he claims, however, and rightly so, that ethics and determinism are not contradictory ideas. On the contrary, indeterminism would render every act of will accidental, and the ethical character of an act depends upon its necessary connection with the whole personality. Ethics is without vitality unless it be based upon determinism.

Evil, according to Professor Höfding, is isolation, which may have originated

in indolence or in defiance. It springs either from ignorance or from delusion. It is ultimately only foolishness, which by persistence becomes hardness of heart.

□ The least satisfactory part of Professor Höffding's ethics is his discussion of the theory of welfare; and it appears that he clings to his definition of welfare simply because the world of ethical beings is necessarily a world of feeling beings. Accordingly, feelings to him are indispensable, and being indispensable he takes the welfare of the feeling element, or pleasureable feelings, as its ultimate criterion. He concedes that lower animals, as well as a lower class of people, may very well be in possession of a greater permanent condition of pleasurable feelings. He explains it through a desire for progress, which has become an inalienable part of mankind. John Stuart Mill said: "It is better to be a dissatisfied man than a satisfied pig, and better to be a dissatisfied Socrates than a satisfied fool." Professor Höffding answers: "I must, however, say a good word for the pig and for the fool; for the difficulty is greater than Mill thought. . . . Man cannot place himself in the position of the pig without ceasing to be man, and Socrates cannot identify himself with the fool without obliterating the Socratean needs. If a pig could attain to the full satisfaction of its demands, would not its happiness be greater than that of man, whose desires and ambitions can never be fulfilled? And the same with the fool. . . . It is a psychological law that the degree of a sentiment is determined by the complete condition of the individual; and he who has gained a fuller satisfaction of his demands has no motive to compare his condition with that of others. There must be different degrees of happiness. It will be as in Dante's Paradise where there are different degrees of bliss. . . . In Dante's Paradise, all endeavor and all evolution are past, but will that be possible everywhere, and how will the principle of welfare be applicable to a comparison of conditions of different beings, among whom each for itself will have the character of complete contentedness?" (Pp. 129-130).

The final explanation which Professor Höffding gives may be an explanation why, in a world the essential characteristic of which is progress, a perfect satisfaction is impossible, and how the ambition to reach higher planes becomes a part of our own being; but it decidedly does not justify the principle of welfare in such a sense as Prof. Höffding explains it, as a maximum state of pleasurable feelings; or it would, if his definition of welfare should be upheld in ethics, condemn progress as an immoral process which ought to be either stopped, or at least retarded.

Having discussed the general notions of ethics, Professor Höffding enters the field of applied ethics, which he divides into two parts: (1) Individual Ethics, and (2) Social Ethics.

Justice is the main virtue of ethics, and it comprises self-preservation as well as self-sacrifice. Self-preservation is not merely an instinct, but also a duty. Suicide may be either the result of a mental aberration, or a liberation from obligations; it comes frequently as the expression of a debilitation of the will; but Professor Höffding does not deny that suicide may be a right, and even a duty.

Self-sacrifice sometimes proceeds from love, and sometimes from generosity. Akin to it is the devotion to truth, which latter is limited only by the love of truth itself. Its aim is to make truth victorious, and therefore truth should be spoken only in such a form as to let it find ready acceptance. To express ethical opinions where they are out of place is barbarism or Phariseism.

In sociology, ethics finds its most important application, and social ethics is divided into three branches: (1) the family as based upon matrimony: (2) society, the free congregation of civilised beings, and (3) the State.

Professor Höffding is in favor of monogamy. He objects to free love as a mere excuse for fickleness. He demands the equal position of husband and wife, but he would not make marriage indissoluble according to the principle of the Roman Catholic Church. He touches upon the problem of prostitution, but does not enter into its intricate difficulties; he only claims that its prevalence cannot be explained as a mere revival of the primitive sexual relations; but he hopes that much can be done to improve conditions by giving women a greater scope of freedom, allowing them independence, and giving them a chance to earn their own living.

In his discussion of the place of women in society, Professor Höffding may be regarded as in perfect agreement with John Stuart Mill. He regards the emancipation of woman as a duty, and would also include the privilege of granting her all political rights.

As to the parents' rights over, and duty toward, children, Professor Höffding explains how the absolute power has been limited and modified, and how the State now exercises to a great extent the rights of watching over the physical welfare of children, and also over their instruction.

Society is based upon the recognition of the liberty of every individual. Nevertheless, the principle of liberty can be exaggerated, as was actually done in the eighteenth century.

The social question is a product of the modern development of society. It originates through the condition of having a smaller minority contrasted with large multitudes. In multitudes personality ceases to be considered, and it is the assertion of free personality which prompts to the ventilation of the social question. Professor Höffding recognises the existence of a dualism in the social order, which shows itself in a contrast between the classes. His investigations do not seem to touch the heart of the problem, and for all we know they may be better applicable to Europe than to England and America.

After a long discussion of civilisation, material as well as ideal, the civilisation of art, of religion, and the problems of State and Church, which of course has reference only to European conditions, and after a discussion of philanthropy (also ignoring the American phase of it), Professor Höffding descants on the nature of the State, which he characterises as compulsion. Whatever the State may do, it is throughout backed by the threat to compel obedience through the use of power.

The State originates through the national sentiment, and may be defined as "the organised people." One of its main functions is the dispensation of justice, which of course must not be identified with morality. Public opinion forms an important part in public life. The State has been defined as ethics incarnate, but on the other hand it has also been regarded as mere power. Höffding believes it to be the duty of the State to organise the life of the people in definite forms.

As to the constitution of the State, Professor Höffding prefers self-government, but although he recognises the preferences of liberty, especially of its educational influence, he grants that a free constitution implies dangers.

In his concluding chapter, he makes reference to Kant's treatise on perpetual peace, and he holds out the hope of its realisation, as Kant himself indicated, because it recommends itself to international commerce and to the very egotism of man.

Professor Höffding concludes his book with the maxim: "Be inspired only by great things, and be faithful in small things."

P. C.

BEWEIS FÜR DAS DASEIN GOTTES. Den Gebildeten unter den Zweiflern gewidmet von *Dr. Paul Schwartzkopff*, Professor zu Wernigerode. Halle a. S. und Bremen: C. Ed. Müller's Verlagsbuchhandlung. 1901. Pages, vii, 118.

"To-day it is generally granted that there is no proof of the existence of God." With this exclamation our author starts and proceeds to distinguish between the untenableness of the old proofs and the unprovableness of the idea in general. He maintains that the former does not imply the latter, and declares, "it would be strange, indeed, if the creator truly played hide and seek in his own works."

Schwartzkopff offers four proofs of the existence of God: (1) the cosmological, which is new in the form in which he presents it; (2) the teleological, which contains some good comments on the significance of pain and death in the economy of life; (3) the moral; and (4) the christological. The last two are not new and appeal to Christians only.

Schwartzkopff accepts the Kantian distinction of phenomenon and noumenon, which he calls the thing and its cause. The thing-in-itself, being a cause, is endowed with causality which implies time, and the question arises as to the relation of God, the cause of all things, to the individual egos. Each individual carries in himself his world, but all individuals together agree in this, that they have their worlds in common which thus form one great universe. The universe is the sum-total of all the world-conceptions of the agents who exist side by side. Whether or not this common universe is possessed of an external reality in space is of secondary importance; it exists most assuredly as a common product. Now, the basis of this common universe, its soul, its cause, is the world-soul or the All-cause, and this is the God of Pantheism. But Schwartzkopff does not stop here; he finds it

plausible to regard the world-cause as a personal author, who is an absolutely independent world-spirit.

We need not dwell here upon the insufficiency of Schwartzkopff's arguments which will convince only those whose habits of thought run in the same grooves. He speaks of cause (i. e., *Ursache*) where he ought to speak of reason, or *raison d'être* (i. e., *Grund*), and it goes without saying that his proof is lacking in logical precision as well as in power of demonstration. The teleological, moral, and christological arguments are still less satisfactory and will find feeble endorsement even in theological circles.

In spite of being a failure, the book is interesting. And why? The arguments offered are futile, but the personality of the author commands our sympathy. He clings to a belief in God, and his booklet presents his efforts to justify the belief. The reason of his failure, however, must be sought in the fact that he clings to a God-conception which in the circle of those who are trained in the school of science has become untenable. The problem of theology is no longer to seek for a new and a tenable proof of the existence of God, but to remodel the conception of God itself so as to make it conform to the demands of our scientific and philosophical knowledge. There is indeed no tenable proof of the existence of a God-individual, because God is no individual; he is God. He is not a person of the type of human personalities, but superpersonal, the condition of man's personality, the law of life, the authority of ethics, the standard of truth, the *raison d'être* of the laws of nature, the formative factor of the world. As such God exists. Let us find out what it is, and we shall thereby understand what God is.

In this way we propose to reverse the method of the antiquated theology, and our plan would not lead to the destruction of religion but to its rehabilitation upon the firm ground of facts.

P. C.

DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY. Including Many of the Principal Conceptions of Ethics, Logic, Æsthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science, and Education, and Giving a Terminology in English, French, German, and Italian. Written by Many Hands and Edited by *James Mark Baldwin*, Ph. D. (Princeton), Hon. D. Sc. (Oxon.), Hon. LL. D. (Glasgow), Stuart Professor in Princeton University; With the Co-operation and Assistance of an International Board of Consulting Editors. In Three Volumes. With Illustrations and Extensive Bibliographies. Vol. I. New York: The Macmillan Company. London: Macmillan and Co., Limited. 1901. Pages, 644. Price, \$5.00.

Surrounded, assisted, and abetted by a corps of eminent scientists and philosophers, Dr. James Mark Baldwin, of Princeton University, has undertaken the first colossal encyclopedic work of the present century,—a work sadly needed and nobly

achieved, even in its few shortcomings. The five chief countries of modern civilisation, America, England, France, Germany, and Italy have co-operated in the task, and the international character of its interest and scholarship, not to speak of its imposing, nay almost unnerving, array of domestic contributors, is in itself sufficient to stamp it as a work of depth, range, and uniqueness. Like the brow of the messenger of Henry IV., its veriest title-leaf and list of contributors foretell the nature of a tragic volume. As the editor says, "There is hardly anything in the work which has not the support of a group of men of the highest authority. This should be remembered by the single writer and student who finds this or that point unsatisfactory. *He is one; we are many.*" Before this multitude, criticism stands aghast, checked, thwarted at the very outset. The book will have none of it.

Two purposes were entertained by Professor Baldwin in the conception of the work: "first, that of doing something for the thinking of the time in the way of definition, statement, and terminology; and second, that of serving the cause of education in the subjects treated." The subject-matter of the *Dictionary* is philosophy and psychology, mostly psychology, or rather the sciences tributary to psychology. "We have aimed," says the editor, "to present science—physical, natural, moral—with a fullness and authority not before undertaken in a work of this character. In the selection of the topics, in the form and length of treatment, in the bibliographical lists, this emphasis will be found throughout." With this extension comes a corresponding limitation. The work eschews the history of philosophy although delving considerably into philosophical biography. "Rather have we aimed at truth to history, and fair appreciation of the spirit of historical research. More particularly, also, is it the history of conceptions rather than that of terms that has concerned us. Lexicographical and linguistic determinations are largely foreign to our work. Meanings, with their historical development, together with the terms which have expressed them and their variations,—these are the essentials of our quest." And again: "It would be useless to attempt in any compass, short of an independent work as large as this, to make a Dictionary of Greek and Scholastic Philosophy. It should be done; it is much needed: but we have not attempted it. We include special articles on Greek and Latin Terminology, with select glossaries of representative terms; and it will be found that many of the finer distinctions of scholastic as well as of ancient thought are brought out in connection with the terms which in our modern vocabulary express or represent them. Yet when all is said, the student of scholastic thought, as of Greek thought, will find so many gaps that it is only just to our limited purpose to warn him of them in advance. It is a change which has come into the subject,—this facing of philosophy towards science and modern life, instead of towards logic and ancient life,—and in consciously accepting the change we accept as well the inevitable criticism it will bring upon us."

Then comes the apology militant for the prominence given to psychology.

"No further justification of it is required than the statement that this is what we set out to do,—to prepare a work devoted to philosophy and psychology. The association of these two subjects is traditional and, as to their contents, essential. Psychology is the half-way house between biology with the whole range of the objective sciences, on the one hand, and the moral sciences with philosophy, on the other hand. The claim to this place laid by psychology to-day is no more plain than is the proof of it which the results in this department of research make good. The rise of experimental and physiological psychology has caused the science to bulk large towards the empirical disciplines, as it always has towards the speculative; and the inroads made by psychological analysis and investigation into the domains where the speculative methods of inquiry, spoken of above, were once exclusively in vogue, render permanent and definite the relation on that side as well. In biology, in sociology, in anthropology, in ethics, in economics, in law, even in physics, the demand is for sound psychology; and the criticism that is making itself felt is psychological criticism. How could it be otherwise when once it is recognised that science is the work of mind, and that the explaining principles by which any science advances beyond the mere cataloguing of facts are abstract conceptions made by processes of thought? It will be found, therefore, that it is upon the psychology of this work that most of its lines converge; and it is in its psychology that many of the hopes of its producers centre. That the psychology be found less adequate than it might be,—that is only to be expected; that it be found less adequate than it should be,—that is the judgment we wish most of all to escape."

The bibliographical part of the *Dictionary*, although not yet published, we look forward to with the liveliest anticipation. This will indeed fill a great want. It will constitute the third volume of the work, the second volume containing the remainder of the text and the indices. We shall not speak of the details of the work, its generally excellent references to the literature, its listing of the foreign equivalents of terms, etc., etc. In all these respects, the *Dictionary*, like Caesar's wife, is above reproach. We have but one bone to pick with the editor,—and that not the femur of a mammoth. It is the space he has given to the favored sciences from which modern psychology draws its nourishment,—his rich enlargement of the pasture-land of the psychologic milch-cows: biology, sociology, physiology, etc. To the contributors in these departments he has given free rein, and they have disported themselves with both grace and vigor. Of the favors accorded to theology we shall only incidentally speak.

The most trifling feature of the *Dictionary* is decidedly the department of biography. It seems to us that the function of a Dictionary of Philosophy should be, not to record everything that "any reader of philosophy should know,"—for that would mean supplanting all other dictionaries under the sun. No person, or body of persons, can say what the reader of philosophy must know in order to be able to read the literature of philosophy,—for that would be tantamount to determining

the precise nature and history of every word ever occurring in the books on philosophy, and the precise preparatory knowledge that each reader possesses. But what the reader does want to find in a Dictionary of Philosophy is the meanings of the purely technical terms in philosophy that he cannot readily find, and cannot expect to find, anywhere else. Any history of philosophy, any good biographical dictionary,—and these the reader of philosophy must certainly be supposed to have,—will give far more information about the lives of philosophers than Professor Baldwin's *Dictionary*,—and all the space, therefore, devoted to biographies in his *Dictionary* is as good as wasted, for it has swollen the bulk of the volume and taken away space rightfully due to purely philosophical terms, which in many cases have received no more technical or elucidative treatment than they have in the *Century Dictionary*. And in this department, as in others, the selection of names has been unbalanced and unmethodical. The late Professor Atwater, the Hodges, the Alexanders, (all estimable and cultivated men, but not at all widely cited in philosophical literature), a host of biologists, embryologists, theologians, preachers, jurists, etc., are admitted, while such names as Fontenelle, Charles Fourier, and Cournot, not to mention Euler, Galileo, and the other great scientists in whose writings genuine philosophy abounds,—have been either forgotten or rejected. True, there is no good reason why they should be included, but no more should the others. If the editor, or other person responsible for this department had lived in the eighteenth century, they would certainly have been admitted; but now only the scientists that make for social and biotic psychology are invested with Olympian honors. Our modern vision of the philosophic horizon has indeed greatly shrunken!

The same remarks apply perhaps even more forcibly to the multitude of irrelevant biological, economic, juristic, and theological terms, for which the average dictionary is sometimes as good and in most cases better; for example, "gestation," "congestion," "cold-blooded animals," "coelom," "coelentera," "enterozoa," "female" (!), etc.; "joint cost," "court," "*damnum absque injuria*," "habeas corpus," "case-law," "humiliation of Christ," "diaspora," etc.,—not to speak of the admission of such common words as "kindergarten," "Byzantine," etc. These are all words,—and we have mentioned a very few only,—that one would never think of consulting a philosophical dictionary for. And what is more, they are all accessible. But the great body of foreign and English literature which deals with the purely technical part of philosophy (notably metaphysics and logic) is not; references to the literature are excellent in their way but in essential points they are unsatisfactory: they merely tell us where information may be found that we knew already existed, but which now as then remains just as accessible or inaccessible as before. A dictionary of physics, chemistry, or mathematics could never be constructed on this plan,—a plan that subordinates its main subject to the sciences that are ancillary to it.

We have only to look at the meagre space devoted to topics connected with

the philosophy of science, and to the character of the definitions in the exact sciences, to be fully impressed with this fact. The definitions of mechanical and mathematical terms in the present first volume are, we may venture to say, in the majority of cases not as complete technically as the definitions in the *Century Dictionary*. Why are they here then? Because readers of philosophy will meet them and must know what they mean? Yes, but they have also, all of them, their High School Dictionaries, their abridged Websters, their text-books of physics. The definitions are all excellent. But that is not the point. If these terms are to figure in a philosophical dictionary, they must *also* be considered in their *philosophical and metaphysical* connections. But, in the present volume, there is scarcely the vestige of a reference to their import or history in this direction. We may instance, as an example, the terms *energy* and *force*. Of the interesting history of the philosophical discussions centering about these terms, of the sempiternal metaphysical problems involved, (to which no less a man than Leibnitz could devote a goodly portion of his thought), and of the very extensive modern philosophical literature that has grown up around these conceptions,—not a word, not even the palimpsestic reminiscence of a bibliographical reference! We look about at random in the *Dictionary*, and find such words as "foreign," "funding," "gross earnings," "charter," "chastity," "comity," "body and flesh," "barter," "artery," "Aryan," "antenna," and even "Apollinarianism" (not the antinomy of "alcoholism," which is also represented in the *Dictionary*, but one of the surreptitious contributions of Professor Wenley); yet amidst this unphilosophical conglomerate we seek in vain for even a statement of the character of the important philosophical discussions concerning *Axioms*, which, if we could borrow for a moment the enthusiasm of that eminent mathematician Dr. George Bruce Halsted, of Texas, we should say "were shaking two continents;" and the very meagrest references only are given to this literature, which is considerable. The same remark holds true of the topics "attraction" and "gravitation."

We again look at random into the *Dictionary*. "Character" is defined psychologically and biologically; likewise "characteristic." But if one met the phrases "universal character" and "geometric characteristic" in reading Leibnitz, one would have to turn to one of the ordinary dictionaries to find their meanings: they are not here, despite the important philosophical developments of which they form part or have been the origin. And this remark holds good of historical terminology at large.

It is true, the editors expressly disclaim the intention of writing a lexicon of philosophy, or a history of philosophy, or,—the restrictions accumulate so fast that one would fain say,—anything at all on philosophy. Their attitude is clear and outspoken on this point. But we have the harassing suspicion that the Preface is a *post festum* performance, and that after the mountainous character of their task had loomed ghost-like and threatening from the nebulous abyss before them, the limitations naturally and gracefully imposed themselves from sheer exhaustion. It

is true, time gallops with the metaphysician as with the lover, and philosophy now "faces toward science and modern life instead of toward logic and ancient life." But Greek philosophy and even Scholastic philosophy are no more blasted with the marks of antiquity, as the play hath it, than are such enlivening subjects as chiliasm, kenosis, homoiousia, homoousia, Eutychianism, and our old friend Apollinarianism, to which the courtesies of modernity have been ungrudgingly extended. If the ordinary-dictionary surplusage, above indicated, had been excised, surely much space could have been rescued, not only for Greek and Scholastic philosophy, but also for modern philosophy,—say in the style of the little sketch on "Imaging" at page 518. Both would have supplied a real want, which the biographies, much of the biology, the economics, the jurisprudence, etc., good as they may be, do not, because readily and more fully accessible in other books. Frankly, in this point, we think a great opportunity has been missed.

The work indeed bears branded upon its front the signature of its age, the age of Psychology,—not of pure psychology, but of the applications of physics, biology, and physiology to psychology. Each psychologist has his specialty or predilection, and indulges in it, making "all the choir of heaven and the furniture of the earth" circle round the science that supports it. With the present editor it is the theory of development, the biological and sociological analogues of the psychologic process, and incidentally theology, that have predominance. If Professor Scripture had edited the volume, its pages would have bristled like the fretful porcupine with instruments, wires, and clickers of varied hues, and philosophy would henceforward have figured as the abigail of experimental physics. And so with the rest.

Now, there is no objection to indulgence in specialties; it is the life of science; but it is not philosophy, although consistent with philosophy. Professor Wundt, specialist as he is, could never have produced a work like the present, which, however serviceable, however accurate, however creditable to all concerned, sins grievously on the side of genuine universality,—to attain the shadow of which it has in its vaulting ambition o'erleaped itself.

This is the sum of our criticism. The spirit of Darwin, not the spirit of Descartes, Leibnitz, and Kant, brooded over the deep when Professor Baldwin fashioned his philosophical cosmos,—a gigantic spirit withal, and one that moved the waters deeply. From that movement there came forth a leviathan, on the mighty anatomy of which our well-meant criticism constitutes, we frankly admit, but a tiny wrinkle. Professor Baldwin's achievement, not to speak of the joint labors of his collaborators, is great, and has been performed with the rarest conscientiousness and ardor. It is a monument of scholarly generalship, and, considering the stupendous difficulties that encompassed its erection, is in many ways commensurate with the lofty aim that the editor set himself. It is not for us to underrate the unselfish labors that years of devotion to science entail; *in magnis voluisse sat est*; and if we have absented ourselves at times in our remarks from the felicity of

outright commendation, it, too, has been for science's sweet sake. *Non omnia possumus omnes.*

T. J. McCORMACK.

ELEMENTARE STEREOMETRIE. Von Dr. F. Bohnert, in Hamburg. Mit 119 Figuren. Sammlung Schubert IV. Leipzig: G. J. Göschen'sche Verlagshandlung. 1902. Pages, iv, 183. Price, 2.40 Marks.

MATHEMATISCHE OPTIK. Von Dr. J. Classen, Assistent am physikalischen Staatslaboratorium zu Hamburg. Mit 52 Figuren. Sammlung Schubert XL. Leipzig: G. J. Göschen'sche Verlagshandlung. 1901. Pages, x, 207. Price, 6 Marks.

VERSICHERUNGSMATHEMATIK. Von Dr. Wilhelm Grossmann. Sammlung Schubert XX. Leipzig: G. J. Göschen'sche Verlagshandlung. 1902. Pages, vi, 218. Price, 5 Marks.

DIFFERENTIAL- UND INTEGRALRECHNUNG. Erster Band: Differentialrechnung. Von W. Franz Meyer, in Königsberg in Pr. Mit 13 Figuren. Sammlung Schubert X. Göschen'sche Verlagshandlung. 1901. Pages, xviii, 395. Price, 10 Marks.

We have again to announce the appearance of several volumes of the admirable series of mathematical text-books edited by Professor Schubert of Hamburg, and are glad to see that the collection is so rapidly nearing completion. Designed to embrace all the departments of theoretical and applied mathematics (so far, forty volumes have been announced), its component works necessarily diverge widely from one another both in character and comprehensiveness, and despite the claim of the series for unity and systematic elaboration, the individual and technical idiosyncracies of the authors as well as the subjects of the different books, have to be taken into account in estimating their worth and usefulness.

To those acquainted with the excessive specialisation of mathematical thought in the last half century, the situation is quite intelligible. The natural direction has been departed from in the text-books of this field even more markedly than in the domain of physics, and while for those who have followed and assimilated it, it has brought both theoretical and practical power, to the uninitiated it is nothing less than bewildering, especially in its luxuriance of terminology and symbolism. If this symbolism and terminology were absolutely logical, as in many cases it is, and could be universally adopted, as in most cases it is not, there would be little objection to its exploitation. But its intricacies are sometimes arbitrary and altogether superfluous, and only add the hair-splitting subtleties of Mediævalism to the unnatural and inflexible logic of the Alexandrian school. Euclid still dominates to a large extent the presentation of mathematics. Mathematicians never tire of insisting that geometry is a "physical" science, yet how many text-books develop it from its physical basis, and present the sensuous images and resulting logical concepts of each department *genetically* and *phoronomically* from the start,

before proceeding to establish the isolated and disjointed propositions that constitute in their logic "the necessary and sufficient" elements to construct a system? Most text-books of mathematics, like most text-books of physics and chemistry, where not the outcome of naive dependence and imitation, appear to be written more to forestall the criticisms of colleagues, and to adhere unthinkingly to prevailing dogmas, than with the desire to open a new field of knowledge *permanently and with the least effort* to students. To sin in the statement of orthodox definitions, framed to conform with the most recent fashionable philosophy, or in the necessary orthodox baldness and unintelligible method of stating results and propositions, is much more to be deplored, it would seem, than lack of success in rendering the subject intelligible to learners. To meet the disapproval of men who have taken upon themselves the gratuitous task of defending the mathematical philosophy of a Gauss or a Riemann, or the physical philosophy of a Thomson and a Tait, is more to be feared than the damning to intellectual ruin of tens of thousands of innocent students whose posthumous protests will never be heard. But this is the rare privilege that educators, after the precedent of priests and princes, have reserved for themselves since that immemorial time when they thracked with their blunted intellectual weapons the dunderpates of ancient Egypt. Add to this the endeavor of incoherently packing into an elementary text-book the sum-total of the results of all the various special methods of each department, and the cup of confusion is full.

It would be ungracious of us to apply any of the foregoing strictures in their full force to the books of Dr. Schubert's excellent series. They do vary in their plan and scope, greatly. Some of them are extremely simple and methodical, as for instance Dr. Schubert's *Arithmetic* and *Algebra*, Professor Pflüger's *Plane Geometry*, and Dr. Bohnert's *Trigonometry*, all formerly noticed in our pages. But it is a far cry from these books to Dr. Pund's *Algebra*, and the higher *Geometries* of Drs. Simon, Böger and Schröder,—not to mention Professor Holzmüller's very elaborate treatise on *Solid Geometry*. There does not, in fact, appear to be the same continuity between these works as there was between the little volumes of the small Götschen series, also edited by Dr. Schubert,—commendable as the larger volumes individually are. But this may be due to the fact that many of the constituent links of the series are still unpublished,—as, for instance, Dr. Schubert's *Elementary Analysis* (*Niedere Analysis*), from which, as from Professors Braunnmühl and Günther's *History of Mathematics* we may expect much.

The four new works of the series which have just come to hand, are Dr. Bohnert's *Elements of Solid Geometry*, Dr. Classen's *Mathematical Optics*, Dr. Grossmann's *Mathematics of Insurance*, and Dr. Meyer's *Differential Calculus*.

Dr. Bohnert's book, like his *Trigonometry*, is kept within modest bounds; it treats of the conventional parts of solid geometry in tolerably genetic manner, and makes extended use, for example, of Cavalieri's principle, Guldin's and Simpson's rules, and also Heinze's principle. The conic sections are also briefly treated in

their connection with solid figures. The author's chief indebtedness, which will characterise his work, is to Holzmüller, Servus, and Heinze.

Dr. Classen's work diverges considerably from the usual presentations of mathematical optics. He has sought to develop only those primary aspects of optics that are not in need of any special theoretical conception regarding the nature of light but may be deduced mathematically from a few indubitable experiential facts. Ordinarily, the undulatory theory, that is to say, phenomena of interference and diffraction, of polarisation and double refraction, are treated by preference, while the laws of geometrical optics are much neglected. The works on purely geometrical optics, on the other hand, sin in the opposite direction. Dr. Classen, now, after the precedent of W. Voigt, assumes five very simple facts, and then determines the form that must necessarily be assumed by the mathematical function that completely represents those facts, and reaches thus the general form of the undulatory function, which he develops for the special cases. He then proceeds to the phenomena of interference (Huygens's principle), and in a similar manner to the treatment of optic images (including Gauss's dioptrics, etc.), to the subject of achromatism, to Thiesen's theory, and to phenomena of diffraction. Polarisation and double refraction are excluded. Dr. Classen believes he has accomplished in this book what has never been accomplished before,—namely, presented in rigorous form all the facts that the student must be absolute master of before he can profitably take up investigations of the nature of light and of the more complicated luminous phenomena, or approach the construction and perfection of optical instruments. Some knowledge of the calculus is requisite to read the work.

Dr. Grossmann, in his book, has endeavored to present the mathematical formulæ controlling the application of the principles of insurance. He has developed these formulæ by elementary methods, and considered not only the forms of insurance connected with the life and death of one or several persons, but also the various modern forms of accident and invalid insurance. He has, in fine, furnished a book of value to the prospective actuary.

Dr. Meyer apologises for adding another treatise on the Calculus to the already large number of excellent text-books on this subject, but he has been moved to do so by the fact that the series would be incomplete without such a work. He has therefore written the book with special reference to this purpose and has actually considered the other books in so doing. Seeing that the applications of the Calculus to the physical sciences have been adequately treated by Nernst and Schoenflies and by Lorenz, he has paid special attention to the subject of errors, with so much the more profit as these calculations are eminently characteristic of the Calculus, in its applications to the sciences. He has deferred the consideration of curves and surfaces, from the point of view of the Differential Calculus, to his second forthcoming volume on the Integral Calculus, to which he will also adjoin his historical notices.

Twenty-four volumes still remain to complete this comprehensive series, and

it merely remains for us to add that the publishers of the series have done their utmost to secure the best possible typography compatible with cheapness, and that special point has been bestowed on obtaining accuracy and neatness in the figures. The impression is heavy, however, and does not do full justice to the typography.

T. J. McC.

THERMODYNAMIQUE ET CHIMIE. LEÇONS ÉLÉMENTAIRES A L'USAGE DES CHIMISTES.

Par *P. Duhem*. Paris : Librairie Scientifique A. Hermann. 1902. Pages, ix, 496. Price, 15 francs.

Professor Duhem has added another work to his rapidly increasing list of excellent publications on physical chemistry, and prefaces the book, which will probably be more widely read than any that he has hitherto written, with the following remarks :

The development that thermodynamics has undergone in the last fifty years has attracted the attention of men who have devoted to it the most varied kinds of studies. Opinions not long since accepted without opposition regarding the aim and scope of physical theories, have been completely overthrown. Mechanics has ceased to be the ultimate explanation of the inorganic world ; it is now nothing more than a chapter, though the simplest and most perfect, of a general body of knowledge that controls all the transformations of inanimate matter ; and the question is not now that of discovering the inward nature and essence of these transformations, but solely to co-ordinate their laws by the help of a small number of fundamental postulates. And philosophy follows with anxious heart the phases of this evolution, which is one of the most considerable that cosmology has ever undergone.

At the beginning of the nineteenth century, mathematical physics furnished a multitude of fascinating and fecund problems to analysts ; and the efforts which were put forth to resolve these problems have given rise to more than one branch of modern analysis ; but the fear was rife that the veins worked by so many transcendent geniuses had been exhausted. Now, the new doctrine generalises to the uttermost limits the data of the problems which were formerly attacked ; it has given them an entirely new setting, and in this way has opened vast vistas to the researches of the mathematician.

The different branches of physics stand apparently isolated ; each of them evokes its own principles, and proceeds by its own special methods. To-day, however, the physicist knows that his work is not concerned with a loosely-connected bundle of branches which are independent of one another, but with a tree of which the different boughs are the offshoots of the same trunk ; all the parts of science that he cultivates appear to him rigorously connected, like the members of an organised body.

In a word, the laws formulated by thermodynamics introduce rational order into the most confused chapters of chemistry. A small number of simple and lucid

rules reduce to order what was once a chaos; the circumstances in which the various reactions are produced, the conditions which check them and assure chemical equilibrium, are determined by these theorems with geometrical precision.

Thus, the philosopher, the mathematician, the physicist, and the chemist, are equally eager to become acquainted with the science of thermodynamics in its modern form, and to obtain a clear grasp of its principles, methods, and results. But each of them is interested in a different aspect of the subject and each requires a special treatise adapted to his purpose. The present work of M. Duhem is intended for the chemist; but we hope that the one for the philosopher may also soon be forthcoming from his pen.

The first five chapters of the present book are devoted to an examination of the foundations on which chemical statics and dynamics rest, and to the exposition, devoid of complicated algebraical analysis, of the elementary ideas of thermodynamics. Considerable space is devoted to recent applications of a thermodynamics to chemistry, special attention being given to "that admirable law of phases, an algebraic theorem born of the genius of J. Willard Gibbs and rendered one of the most valuable controlling principles of modern chemistry by the masters of the Dutch school, Van der Waals, Bakhuis Roozboom, and Van't Hoff." American readers not familiar with the history of this science will be glad to learn that Professor Gibbs is a countryman of ours.

The remainder of M. Duhem's work is devoted to purely technical questions of chemistry, and need not claim our attention here. μ.

L'ANNÉE PSYCHOLOGIQUE. Publiée par *Alfred Binet*. Avec la collaboration de MM. H. Beaunis and Th. Ribot. Secrétaire de la Rédaction: Victor Henri. Septième Année. Paris: Librairie C. Reinwald. Schleicher Frères, Éditeurs. 1901. Pages, 854. Price, 18 francs.

The *Année Psychologique* for the work of the year 1900 contains twenty-four original memoirs: The first is a long biological monograph on the "Habits of *Bembex* (the digger-wasp)." The four following monographs are by Ch. Féré, on the "Variations of Excitability and Fatigue," "The Influence of Agreeable and Disagreeable Excitations on work," "The Alternative Work of the Two Hands," and "The Comparative Excitability of the Two Cerebral Hemispheres of Man." M. Binet contributes nine papers,—two on "Esthesiometry," one on the "Technique of the Measurement of the Living Head," four kindred papers on "Cephalometry," one on "Observing and Imaginative Types," and lastly one on "A New Apparatus for Measuring Suggestibility." There are three memoirs by M. Simon on "Cephalometry" and two on "Backward Children;" the remaining papers are: (1) "On the Participation of Nervous Centers in the Phenomena of Muscular Fatigue," by J. Jotyko; (2) "Muscular Effort and the Fatigue of the Nervous Centers," by MM. Aars and Languier des Bancelles; (3) "Intellectual Work in its Relationship with Muscular Force Measured on the Dynamometer," by J. Clavière;

(4) "Have We Specific Sensations of the Position of Our Limbs?" by J. Claparède; (5) "On the Different Information that the Eye and the Hand Give Us Respecting the Volume of Bodies," by J. Laureys, with comments by J. J. van Biervliet; and (6) "On the Estimations of Colored Surfaces," by Larguier des Bancel.

The second part of the *Année* contains the usual analytical notices of the works in psychology published during the year 1900, including a valuable bibliographical table of everything that has appeared in psychology and its cognate departments, together with an index of authors. μ.

STUDIES IN AUDITORY AND VISUAL SPACE PERCEPTION. By *Arthur Henry Pierce*, Ph. D., Professor of Psychology in Smith College, Late Kellogg Fellow at Amherst College. New York, London, and Bombay: Longmans, Green, and Co. 1901. Pages, 361. Price, \$2.00.

"The several essays here brought together," says Mr. Pierce, "appear as the regular publication demanded of the incumbent of the Kellogg University Fellowship of Amherst College at the expiration of his official term. . . . They purport to be contributions to a particular field of experimental psychology. Whatever unity pervades them is determined rather by the general identity of subject-matter than by the continuous application of any single principle of interpretation. . . . The general theoretical position may be defined as nativistic, the nativism being of that moderate and elastic form which acknowledges the large and all-important rôle played by an organising and systematising experience. To determine the details of the particular experiences under which some of our visual and auditory spatial perceptions, illusory or otherwise, appear, has been everywhere the incitement to these investigations."

The little work does not cover the entire field of space-perception and omits altogether the sensations of movement that have been so interestingly investigated by Dr. Mach. The main discussions centre about auditory space, localisations of sound, auditory orientation, etc., and the various sense-illusions (the illusion of the Kindergarten patterns, Poggendorff's illusion, etc.). The literature is given in the first case, but not in the latter. There is no index. μ.

DER POSITIVE MONISMUS UND DAS EINHEITLICHE PRINCIP ALLER ERSCHEINUNGEN. Von *Gustav Ratzenhofer*. Mit drei Figuren. Leipzig: F. A. Brockhaus. 1899. Pages, xii, 157. Price, 4 Marks.

POSITIVE ETHIK. Die Verwirklichung des Sittlich-Seinsollenden. Von *Gustav Ratzenhofer*. Leipzig: F. A. Brockhaus. 1901. Pages, xiv, 337. Price, 8 Marks.

Ratzenhofer's works on *Politics* and *Sociological Cognition* have attracted some attention in his native country, and their fundamental philosophical theories are quite naturally looked upon by their author himself with the greatest confidence in their truth, adequacy, and timeliness. He has chosen the name *Positive*

Monism as the best characterisation of his system,—not the positivism of Comte, he remarks, nor wholly that of Mill, and certainly not that of materialism, with which positivism is frequently identified. He is enthusiastic about the monistic theory, asserting that it has always been the ideal of philosophy; yet at the same time his monism is not conceived in the sense of Haeckel's, which is in his view simply materialism disguised. "The recognition of the unity of law in all phenomena, the subjection of all human aims and efforts to this law, the eradication of all contradictions and conflicts in the problems of life, are the aim of his philosophy." In his view, science is not an end in itself, but the handmaid of ethics; its purpose is positive: the perfection of the human race; while it also gives to our endeavors a solidity and reality which teleology has vainly sought hitherto to conceive as immanent in Being at large. Sociological and historical cognition becomes therefore the center of Ratzenhofer's system. In parallelism with the unitary character of all phenomena on the ontological and cosmological side, is placed the principle of the unitary character of all psychical and social phenomena. Through sociological cognition, Ratzenhofer's monistic positivism leads to an elaborate doctrine of politics, and since the latter contains the means for perfecting society, it also leads to a "positive ethics," the purpose of which is the perfection of the individual. By his system, the author believes that "absolute errors" can be avoided. In opposition to Kant, he takes the stand that a theoretical establishment of ethics and religion is eminently possible, and lays great emphasis on the fact that his system gives so large and systematic a place to practical morals and religion. μ .

GEORG WILHELM FRIEDRICH HEGEL'S VORLESUNGEN ÜBER DIE PHILOSOPHIE DER RELIGION. Mit einem Commentar herausgegeben von G. P. J. Bolland, Professor der Philosophie an der Universität Leiden. Erster Teil, Text. Leiden: A. H. Adriani. 1901. Pages, xxi, 708.

GEORG WILHELM FRIEDRICH HEGEL'S VORLESUNGEN ÜBER DIE PHILOSOPHIE DER RELIGION. Mit einem Commentar herausgegeben von G. P. J. Bolland, Professor der Philosophie an der Universität Leiden. Zweiter Teil, Commentar, erste Hälfte. Leiden: A. H. Adriani. 1901. Pages, 272.

The present edition of Hegel's celebrated *Lectures on the Philosophy of Religion* is based on the older editions of Marheineke (1832 and 1840), but has been entirely re-elaborated in its external features by Dr. Bolland and brought more into conformity with present needs. It will be remembered that the original lectures did not come directly from Hegel's own pen, but were compiled from the notes of his students. The present age, remarks Dr. Bolland, is entirely "de-Hegelised" and is consequently in need of special Hegelian treatment. He has therefore not only altered the text in places, but has illuminated it with commentaries and by the citation of parallel passages from other authors and from other works of Hegel. Dr. Bolland has brought much learning to bear upon his task, and his labors will be of undoubted usefulness to students of Hegel. u .

DIE BEGRIFFE UND THEORIEN DER MODERNEN PHYSIK. Von *J. B. Stallo*. Nach der dritten Auflage des englischen Originals übersetzt und herausgegeben von Dr. Hans Kleinpeter. Mit einem Vorwort von Ernst Mach. Mit einem Porträt des Verfassers. Leipzig: Verlag von Johann Ambrosius Barth. 1901. Pages, xx, 332. Price, 8.50 M.

Tardy but adequate recognition the late Honorable J. B. Stallo has received from the country of his birth. His work on *The Concepts and Theories of Modern Physics* has enjoyed in America since its first publication in 1881 the highest reputation among scientists and thinkers. It is unnecessary for us to comment upon it here, or upon the high character of its author, who found leisure among one of the most prosaic of occupations to cultivate philosophical ideals. It was at the instance of Dr. E. Mach that the present work was translated into German, and to him also we owe the appreciative preface which is prefixed to the German translation. Mr. Stallo's object was essentially the same as that of Dr. Mach, namely, to "eliminate from science the latent metaphysical elements." And the fact that both these thinkers, starting from different points of view and entirely independent of each other, reached virtually the same conclusions on several of the central problems of the philosophy of science, cannot but have a stimulating and beneficent effect upon this line of research. The translation by Dr. Hans Kleinpeter is adequate and faithful, and it can only be hoped that his work will find a favorable reception in the country of Mr. Stallo's nativity. μ.

LA PSYCHOLOGIE DU RÊVE AU POINT DE VUE MÉDICAL. Par *N. Vaschide* et *H. Piéron*. Paris: Librairie J.-P. Baillière et Fils. 1902. Pages, 95. Price, 1 fr. 50.

MM. Vaschide and Piéron have continued in various forms their researches on dreams, with part of which the readers of *The Monist* are acquainted, and the present little volume is devoted to the subject from the point of view of medicine. General pathology is concerned with this subject more than is commonly supposed, dreams playing an important part in infectious diseases such as typhoid fever, and having also considerable importance in local intestinal, cardiac, and pulmonary affections. In hysteria, dreams are not only a symptom, but also frequently an active factor, of the disorders that produce them. The little volume is one of the series entitled "*Les actualités médicales*," which aims to present the most recent investigations in medicine. μ.

PHANTASIEEN EINES REALISTEN. Von *Lynkeus*. Zweite unveränderte Auflage. Dresden und Leipzig: Verlag von Carl Reissner. 1900. Pages, vi, 216.

Lynkeus is the *nom de plume* of a German author whose real name is Irvin Bauer. The present volume contains in two parts more than sixty little sketches, many of them of great interest and full of thought. He causes to pass before our eye figures representative of all classes of society, of all types of mankind,—the

pessimist, the optimist, the philosopher, the scholar, the misanthrope; he portrays scenes in the life of Michelangelo, Confucius, the Troubadours, of Timur and Hafiz, the philosophy of Mih-Tse, Alexander the Great, the hero of the battle of Austerlitz, King Solomon, Holbach, the wife of Emperor Tcheu-Sin, Julius Cæsar, Erasmus, Emperor Asoka, etc., etc. A definite tendency is not perceptible, but most of the sketches are pleasing and instructive, and we lay the book aside satisfied that we have met an author who does not go to extremes and yet can entertain us with his genius by comments as well as suggestions implied in his little unassuming stories.

PROBLEME, KRITISCHE STUDIEN ÜBER DEN MONISMUS. Von Dr. Heinrich Schoeler.

Leipzig: Verlag von Wilhelm Engelmann. 1900. Pages, viii, 107.

This pamphlet is a lively discussion of philosophical problems. It begins with the denunciation of the idea of substance as a "humbug." Monism is refuted, for it believes in a physical substance and in the persistence of energy. The ideas of energy and force, of space and time, are full of difficulties, and motion itself defies definition. The ether hypothesis is a mere assumption, and the connection of energy and matter is incomprehensible. Such are the foundations of our knowledge. Life is a fact, but the origin of life has nowhere been observed, let alone understood. There is the duality of body and mind; and while materialism is crude and monism considerably superior, neither of them can be regarded as a successful explanation of the world. The result is that the world is incomprehensible. Though the riddle of the universe may not be behind phenomena, yet it lies in them as the source of their existence. We may call it energy or force; it is the eternally incomprehensible; it is the same which Siddhattha Gotama calls the *Avidya* and Fichte the *Unconscious*, which precedes as well as follows all consciousness.

PHYSIK DES SEELENLEBENS MIT DEM ERGEBNISSE DER WESENSGLEICHHEIT ALLER

BEWUSSTSEINSZUSTÄNDE Allgemeinverständliche Skizze eines Systems der Psychophysiologie und einer Kritik der herrschenden Lehre. Von Julius Pikler, Dr. der Staatswissenschaft, Professor der Rechtsphilosophie an der Universität Budapest. Leipzig: Verlag von Johann Ambrosius Barth. 1901. Pages, 40. Price, 1.20 M.

Dr. Julius Pikler, Professor of Jurisprudence in the University of Budapest, addresses in this little pamphlet a young friend of his by the name of Erich, for the purpose of explaining to him the psychological problem in its several difficulties. He refers to a prior book of his, entitled: *The Fundamental Law of all Neuropsychical Life*, and discusses perception, comparison, memory, sensation, feeling, volition, deliberation, action, involuntary motions; and he states that self-preservation is the main principle of all the phenomena of soul life,—a principle which no psychologist has as yet fully understood or traced in its significance. He

criticises the wrong psycho-physical theories, and takes Herbert Spencer as a sample to set forth the errors of his definition of life. He explains attention from this principle of self-preservation. He criticises the doctrine of the localisation of functions, and concludes with the suggestion that most likely the neural movements will be found to be of an electrical nature,—a theory which in the meantime has been worked out by Professor Loeb, of Chicago.

PROBLEMI GENERALI DI ETICA. By *Giovanni Vidari*. Milan: Ulrico Hoepli, 1901. Pages, xvi, 271. Price, 4 Lire.

Struck with the prominence which practical ethical questions have attained in all civilised countries during the last twenty years, Mr. Vidari has been impelled to submit to close scrutiny the foundations of scientific ethics, and the methods which it should pursue. He has asked himself such questions as the following: Is the construction of a scientific ethics logically possible? Do we not meet in framing such a system intrinsic and insuperable difficulties? If not, how are the apparent difficulties of this character to be avoided? What are the limits of a system of scientific ethics, what its precise object, what its methods? As will be seen the author does not enter into any of the particular problems of practical ethics, but limits his view to general considerations entirely. It shows a wide acquaintance with the scientific and philosophical literature of America as well as of European countries.

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ESSAI SUR TAINE, SON ŒUVRE ET SON INFLUENCE, D'APRÈS DES DOCUMENTS INÉDITS.

Avec des extraits de quarante articles de Taine non recueillis dans ses œuvres. Ouvrage couronné par l'Académie française (prix Bordin). Par *Victor Giraud*, Professeur de littérature française à l'Université de Fribourg (Suisse). Deuxième édition refondue. Paris: Librairie Hachette et Cie. 1901. Pages, xxxi, 311. Price, 3 fr. 50.

The present study of M. Giraud had, in its inception as a literary essay, the sanction of the great critic Taine himself. The author has carefully compared all of Taine's works and all their various editions, his unpublished manuscripts, his correspondence, etc., and with these materials has endeavored to trace in precise outline the history of Taine's thought and labors. He has devoted a chapter to Taine as a logician, another to Taine as a poet, another to Taine as the historian of English literature, and a final chapter on the influence which Taine exercised on the three or four generations of intellectual life which were in part contemporaneous with his career. Voluminous appendices comprising extracts from articles of Taine not represented in his collected works have been added.

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